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SYMPTOMATOLOGY, DIAGNOSIS, TREATMENT OF NEOPLASMS OF THE KIDNEY.*

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CHICAGO.

Clinically the surgical tumors of the kidney include pyo- and hydronephrosis, cystic kidney and echinococcus. We therefore conveniently group and consider them with the true neoplasms. Reginald Harrison makes a practical subdivision of these tumors into those of congenital and post-congenital origin.

- Congenital.
  - Sarcoma.
  - Cystic disease.
  - Hydronephrosis.
  - Cavernous tumors.
- Post-Congenital.
  - Extrarenal.
    - Abscess.
    - Cysts.
    - Myxolipoma.
  - Pelvis.
    - Adrenal growths.
    - Hydro- and pyonephrosis.
    - Villous tumor.
    - Carcinoma.
  - Gland and capsular.
    - Hydatid.
    - Cystic.
    - Tubercular disease.
    - Lymphadenoma.
    - Syphilitic.
    - Lipoma.
    - Fibroma.
    - Sarcoma.
    - Carcinoma.
    - Secondary growths.

In the arrangement of the program the symptomatology, diagnosis, treatment, and prognosis have been assigned to me, to the consideration of which we will at once proceed, endeavoring to emphasize only the more reliable and constant points, asking indulgence if repeating much already well known to the Fellows. Two or more of the four cardinal symptoms are almost always sufficient to enable us to make a diagnosis: 1. Tumor in renal region. 2. Hematuria. 3. Pain. 4. Cachexia.

The most frequent first symptom to attract attention to the part is *enlargement*, noted as often by the patient or parents as by the physician, and, on examination by him, is found to occupy the renal region and to which he immediately applies his anatomic knowledge to determine: 1. Its relation to the peritoneum. 2. Its relation to the colon. 3. Its mobility with respiration. 4. Its relation to liver or spleen. 5. Its relation to the urine.

Having demonstrated to his own satisfaction that it is retroperitoneal, that the colon is in front or has been pushed aside by it, that it does not move with respiration and is not of hepatic or splenic origin, the conclusion is justified as to renal tumor, the nature of which may be any one of the above mentioned. No limitations as to size, shape, rapidity of growth or consistency of this swelling can be made, though variations in either particular may aid with other factors in approximating a correct diagnosis and therefore prognosis and treatment. Almost the sole symptom in children is tumor—pain being absent or vague, hemorrhage in microscopic quantities, and the cachexia apparent when the tumor has existed for some time.

The second symptom is *hematuria*. Authorities agree that in about 50 per cent. (Poncet) of the patients this is present, absent in the majority (Soulier), and it too may vary between only microscopic quantities to evident hemorrhages, perhaps more frequently small, and therefore well mixed with the urine. Blood being found in the urine, its source *must* be determined before reliable conclusions can be drawn, for any portion of the urinary tract might bleed. When the hemorrhage from the kidney is of the milder type, we occasionally find blood casts of the ureter resembling angleworms in shape and size; characteristic when found, and indicating a slow enough bleeding to permit clotting in the ureter. While stone is the most frequent cause of renal hemorrhage, the next most frequent factors are: 1, neoplasms; 2, tuberculosis; 3, renal angioneurosis (Klemperer), which must be borne in mind, as all may be associated with renal enlargement. The hemorrhages from the earlier malignant tumors are usually painless and often produce clots. Pain is not a very constant symptom; when present, it is usually after the growth has reached a size that its weight or its pressure contact may produce it. Dull and vague in character, radiating into lumbar and inguinal regions, it is only acute when inducing obstructive colic, and is sometimes referred to the bladder, groin or testes.

Cachexia, associated with the above symptoms, is usual and relatively early in the history. The blood count, hemoglobin estimate and study of the character of the white corpuscles assists in the differentiation between the inflammatory and neoplastic enlargements.

DIAGNOSIS.

In no department of surgery may the diagnosis be as facile or as absolutely impossible as here, for not only have we to exclude tumors of the adjacent parts—particular mention being made of those of the adjacent colon, spleen and liver—but we must bear in mind that we have no one constant symptom to guide, while we have congenital anomalies and such benign tumors as hydronephrosis to deceive.

Given, then, a tumor which we are reasonably sure is of renal origin, our first consideration must be its benign or malignant character. Aiding us in determining this will be (Rovsing): 1. Careful study of the clinical history of the case. 2. Exact and frequent examination of the urine. 3. Palpation with or without anesthesia. 4. Cystoscope, ureteral catheterization and exploration by sounds. 5. Direct exploratory incision.

The History.—Renal tumors of the first four years of life are almost invariably of one of the sarcomatous types, become evident generally within fifteen months after birth, and are most discouragingly fatal in their

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end results. Belonging as they do to the embryonal type of tissue, they are usually of short history, rapid growth, attain large size, involve neighboring tissues and are prone to recur; hence operative interference is contraindicated except very early in the course. Fischer, in 30 nephrectomies, saw not one permanent cure. Czerny, in 150 cases, saw only 5 patients cured, and living, after five years. Albarran saw 11 in 97, cured one year after.

In the young, again, we may occasionally differentiate between the *probable* sarcoma and the *possible* cystic disease, hydronephrosis or vascular growths: 1, by history; 2, by uranalysis by—in female at least—urine segregation; 3, by blood examination; 4, by rapidity of growth; 5, by ureteral catheterization, the latter in some cases of hydronephrosis—as Wertheim has called attention to—sometimes giving a sudden free stream of urine from the catheter and causing the tumor to disappear.

Beyond the age of childhood the history aids still more in our diagnosis, as the hydro- and pyonephrosis will usually have had a preceding history to guide, a possible constitutional infection (syphilitic, relate case), ascending (gonococcus) or primary, autoinfection, e. g. (bac. com. coli.), a mechanical cause for the retention and dilatation, or a trauma. Hildebrandt, from a study of the Göttingen clinical material, drew the following conclusions: 1. "If the tumor is very large, a carcinoma is improbable." 2. "Very slow growth speaks decidedly against sarcoma and carcinoma, but decidedly for the strumas (adrenals) and angiomata."

Echinococcus cysts are very slow in development, the habits and environments of the patient giving hints to probability of tumor's nature.

Examination of Urine.—While the statement of Obolinski, that "neither the uranalysis, pain nor palpation teaches which kidney is diseased," may have been true in the past, in these days of the Harris segregator, the Nitze cystoscope and Kelly ureteral catheter, but few cases can escape a thus carefully made examination.

It must be borne in mind that ureteral catheterization is not absolute in its results. Thus, there may be a single horseshoe kidney with two ureters; or failure to secure urine from one side be no proof against existence of an intermitting hydronephrosis. Again, the passage of the ureteral catheter into the pelvis of the kidney, and detection say of a stone, is not proof that the accompanying renal enlargement is due solely thereto, as several times stones have been found associated with pelvic carcinoma and are believed to have a similar causative relation to that which gall-stones show to malignant disease of the gall-bladder.

When the uranalysis presents the characteristics of the "atrophic" kidney, associated with renal enlargement, we have most frequently to deal with the polycystic kidney, and confirm diagnosis by palpation, remembering that this is usually bilateral and therefore inoperable. The urine having been secured from the separate kidneys, always by the segregator, *if the gross urine is purulent, septic,* or containing evident bacteria, as Albarran, Desnos and others have reported ascending infections from ureteral catheterizations—much valuable information may be drawn both as to the diseased side and the functional capacity of the opposite.

As has been stated, about 50 per cent. of neoplastic growths are associated with hematuria. About 20 per cent. betray—after repeated examination—neoplastic fragments. Echinococci hooklets may be found here—or even the daughter cysts—52 times in 63 cases. Especially when blood is found should the stain for tubercle bacilli be made, as this is a frequent cause both of hemorrhage and renal enlargement, the bacilli being more easily detected between hemorrhages. When pus is found, the stain for bacillus commune coli should be made, since it is a causative agent in many pyonephroses (Guyon).

Palpation.—König's dictum: "The normal kidney is not sensitive to palpation." "A sensitive kidney is a diseased kidney" holds true in those renal enlargements of retention characteristic of cystic degeneration, but many of the renal solid growths are free from tenderness. The kidneys undergoing polycystic change present a characteristic feel of multiple oval nodes, while the majority of renal growths are of even, smooth outline, without notch or edge, such as liver or spleen furnish. While I can not agree with Israel that every tumor of the kidney, of the size of a walnut, should be detected by palpation under anesthesia, the perhaps *most important* service the physician can do these patients is to detect the presence of a growth while yet small, as these furnish the successfully cured cases, and have rendered it even possible in non-malignancy to resect the diseased portions, thus conserving much kidney substance to the patient. In sixty-three cases of hydatids, the tumor was palpable eighteen times. (Roberts.)

As to exploratory incision and puncture, cases which are justifiable for exploration are also justifiable for operation at the same sitting. I should advise against two anesthesias—hence we are brought to the question of treatment.

TREATMENT.

Greig Smith's very satisfactory division of tumors of the kidney in their treatment as those appropriate for one of these operations, in practice is most satisfactory, namely: 1. Puncture. 2. Nephrotomy. 3. Nephrectomy. He says: "Puncture, nephrotomy, nephrectomy, overlap; any one of them may be indicated for the same condition, and indeed all of them may be properly performed in succession for the cure of this condition."

"Renal puncture is indicated for: 1. Simple cysts. 2. Hydronephrosis. 3. Hydatid cysts.

Nephrotomy is indicated for: 1. Cases where puncture fails. 2. Pyonephrosis. 3. Suppurative nephritis and pyelonephrosis. 4. Tubercular kidney. 5. Calculous disease.

Nephrectomy should be resorted to: 1. Where nephrotomy fails, or would be useless. 2. In certain neoplasms of kidney. 3. For fistulæ. 4. For degenerated kidney.

I do not here propose to give descriptions of the numerous methods of procedure, but can not refrain from calling earnestly to your attention a few points that have developed in my own work to the dignity of importance.

1. Some years ago I had the honor of preparing a paper, for this Society, in which I advocated a then new method of perforating the abdominal wall, which unfortunately was postponed in its reading by the intervening summer vacation from May to September. During that July, through an article in the *Annals of Surgery,* this method had come to be known as the "McBurney incision," or method of separating the muscular fasciculi. An identical procedure I am gratified to note is at last being recognized both in England and America, as applicable for approach to the kidney—as well as other abdominal organs. One will be surprised both by the room permitted and the perfect falling together of the parts after the operation, as well as speedy union.

2. Bitter experience has taught me that in nephrec-

tomy, whenever possible, the renal pedicle should be temporarily clamped and cut. Only after the removal of the tumor is it satisfactorily feasible to properly treat the separate elements of the pedicle. Slipping of ligatures otherwise applied is very prone to occur.

3. On the right side, avoid traction on or occlusion of the vena cava. Even temporarily shutting off the returning blood-supply to the heart makes a dangerous, even fatal, shock. I had a death thus.

4. Never do a nephrectomy until sure of both the existence and functional capacity of the opposite side. In the early days of the Harris instrument, I did a nephrotomy on a patient, with Dr. Eisendrath. The patient's opposite kidney secreted a normal urine both chemically and microscopically. There was fatal post-operative anuria, and the post-mortem showed a congenitally infantile kidney. I had failed to estimate the functional capacity, because then ignorant of its importance, drawing the illogical conclusion: normal urine, therefore normal kidney.

5. Study the clinical history carefully. In a case transferred to the surgical department of Michael Reese Hospital, a superficial study of the history seemed to point emphatically and clearly to a pyelonephrosis of the right kidney. Pain, fever, large tumor, purulent acid urine, gonorrheal cystitis and urethritis was apparently so clear that no segregation of urine was made. Lumbar nephrotomy revealed an extremely thickened and enlarged kidney, a full finger depth to the pelvis, with normal urine in the pelvis, and no pus in the wall. Later, more careful examination revealed the temperature to be a syphilitic eruptive fever, and the tumor a syphiloma of the kidney. Recovery was complete under appropriate treatment, with return of the kidney to normal size.

6. Every renal operation that can be done without entering the peritoneal cavity is a safer one, and should be selected.

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RENAL CALCULI.*

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Telluric conditions were at one time looked on as of considerable etiologic importance in the formation of calculi but, at present, their influence in this direction is considered practically *nil*.

Hirsch[1] says that "climatic influences, geologic formation and character of the drinking water as causal factors in the formation of stone find no support in the facts."

Attention was next directed to the method of living, food, etc., of the individual himself, and as a large majority of the stones are of uric acid composition a uric acid diathesis was invented and a near relationship sought between lithiasis and gout.

Concerning the association of gout and stone, Virchow[2] says that the common opinion that uric acid kidney and bladder stones have to do with the occurrence of gout is untenable, and that their coexistence is accidental.

Bouchard[3] finds that in 1000 cases of gout, there were but 87 of uric lithiasis, and in 1000 cases of uric lithiasis but 103 of gout. This would not indicate any marked etiologic relationship.

Concerning the question of diet, method of living, etc., Senator[4] says: "The old idea that the method of living and the food, particularly a rich nitrogenous diet with wine and beer, and lack of exercise, play an important rôle in the origin of lithiasis, at least, generally speaking, is not in accord with the actual conditions."

Von Noorden[5] says: "Only extreme changes in the diet, which are practically impossible to carry out, influence perceptibly the uric acid output," and Klemperer[6] says that bodily exercise increases the amount of uric acid.

The older theories of uric acid formation and the uric acid diathesis were based on the erroneous idea that uric acid was an "ante" product of urea and due to defective oxidation.

The researches of Horboczewski and of Kossel have shown that uric acid, and the other alloxur bodies, have their origin in the nucleins of the body and, therefore, bear a direct relation to the formation and destruction of the leucocytes, which are the great nuclein bearers. Hence the older theories were abandoned, but only to make way for others founded on the newer theories of the origin of uric acid.

The chief factor in formation of stone was now considered to be the presence in the urine of uric acid in excess, which, on precipitation and crystallization, formed the stone. Unfortunately, for the theory, uric acid was found to be not necessarily in excess. Moreover, in those conditions in which uric acid is present in excess we very seldom find stones. For instance in leukemia, when there is a remarkable destruction of leucocytes with often an enormous excess of uric acid in the urine, we almost never find stone, in fact but a single case of urate stone in the kidney in a leukemic subject has been reported.[7] Again, uric acid stones are most common in the adult between the ages of 30 and 60, and very rare in childhood, although the relation of uric acid to total nitrogen in the urine is seven to eight parts per hundred in the child and only one to three per hundred in the adult. It has also been found impossible to produce a kidney stone experimentally by the exhibition of uric acid in considerable quantities, for prolonged periods of time to animals. Ebstein and Nicolaier[8] were unable to produce calculi in animals by giving oxalic acid and its salts, although nephritis and contracted kidney were produced. Something more, therefore, than the mere presence of a large amount of uric acid in the urine is necessary to stone formation. It must be precipitated from solution, and even precipitation alone is not sufficient, for uric acid and urate crystals are frequently passed suspended in the urine and, in that condition known as phosphaturia, cloudy urine holding phosphates in suspension may be passed for long periods of time, yet phosphate stones do not form. Analysis of all kinds of stones shows, in addition to the crystallized body forming the chief component, an organic or albuminous body in considerable amount which acts the part of a cement, thus causing the small crystals to adhere together so as to form stones.

The origin of this albuminoid body was sought in the so-called "stone-formation" catarrh of Von Hemsbach, a catarrhal condition of the kidney pelvis supposed to precede the formation of the stone. Ebstein considers a nucleus of pus, blood, detached epithelial cells, etc., about which the salts of the urine may crystallize, as a necessary antecedent to the stone. That such a foreign body alone is not sufficient to give origin to stone formation is shown by a study of cases of subcutaneous injury to the kidney attended by hematuria.

Maas[9] has collected 71 patients with such subcutaneous injury to the kidneys. Of these, 15 died as a direct

*Read before the Chicago Medical Society.

result of the injuries received and are thus excluded from consideration; 19 died as a result of the injuries or complications following, but at more remote intervals. In only 1 of these were stones found. This one died on the forty-first day. One oxalate stone was found in a large cavity filled with cloudy, bloody fluid and coagula, and six small oxalate stones in a cyst in the walls of which was found kidney tissue. Of 37 who recovered from the injuries, 1 passed a little gravel or sand eight months after the injury and was well thereafter. In 1, in whom an abscess followed the injury with a resultant permanent lumbar fistula, a mulberry stone developed and was found at autopsy twenty years after. The kidney was changed to a mere cyst. One in whom an abscess formed at the time of injury, with permanent lumbar fistula, passed several small stones through the fistula at intervals of seven years. Of the 56, therefore, but 4 developed stone, and of these 4 patients, 3 were certainly infected.

It is of interest to note that in one who died of nephritis 1½ years after the injury a large decolorized blood clot was found in the pelvis of the kidney extending into the ureter, but no stone nor deposit of urine salts whatever was found. This clot had remained in the kidney, as a foreign body, 1½ years, without causing precipitation of salts about it. This agrees with Tuffier's experiments on the introduction of foreign bodies into the kidneys in animals. So long as the kidneys remained aseptic, no stones formed, even when the animals were fed urates and oxalates.

The fact that certain constituents of the urine are thrown out of solution by changes in temperature and reaction of the urine led to the supposition that stone formation was simply a matter of precipitation. Abundant evidence soon showed this to be an error. Even the presence of a foreign body to act as a nucleus is not in itself sufficient. Ebstein claims that exfoliated cells from the interior of the kidney not only act as nuclei for stone formations, but the acid reaction of the dead cells changes the soluble urates into insoluble acid salts. But in post-scarlatinal nephritis, where we meet with extreme degrees of exfoliation of cells, stone formation does not occur. It is thus evident that further search must be made for the cause of stone.

Galippe,[10] in 1886, found bacteria in the center of several renal calculi, and suggested a causal connection. Begoine[11] reports a renal calculus with a center of bacteria. Lennander[12] reports a case of renal calculus composed of oxalate center with urate cortex, also a yellowish mass composed of urates, coloring matter belonging to the urobilin group, an albuminous body and zooglea masses of the colon bacillus.

I examined a urate calculus, the size of a small pea, which I obtained from a child 2 years of age. In the center of the calculus was a small light brownish mass the size of a pin's head. This mass, treated with distilled water, dried on a cover-glass and stained, showed numerous small cocci, resembling the staphylococcus in size and shape. A small uric acid calculus passed with acute renal colic by a man, treated in the same manner, showed a similar coccus and masses of a short bacillus with rounded ends. An oval-shaped uric acid stone the size of an almond, which I removed from the kidney of a woman, showed rather short bacilli singly and in small masses, which took the stain rather poorly. In this connection, it might be well to mention similar work done on the concrements of other organs of the body.

The work of Gallipe, Gilbert and Dominici, Fournier, Cushing, Peterson, Herzog and others has demonstrated the causal connection between bacteria and gall-stone formation. I have, myself, in cholelithiasis, demonstrated the presence of the colon, the typhoid and, in one case, an unidentified bacillus. Loison has found the streptococcus in salivary calculi. The filiform fungus of Graefe has been found in lachrymal stones. Chiari has shown bacteria in rhinoliths. Nimier and Shattuck have found bacteria in pancreatic stones, and believe the latter were of bacterial origin. Otoliths have been observed in cases of purulent discharge and pneumoliths and broncholiths in septic dilatations of the respiratory tract. It will thus be observed that bacteria have been found in concrement formation throughout the body. The occurrence of phosphatic stones in kidneys, the seat of septic processes, has long been correctly attributed to the decomposition of the urine produced by the bacteria present. Based on this fact, kidney stones have been divided into two classes: primary stones or those which form in kidneys not the seat of a septic process and hence not considered of bacterial origin, and secondary stones or those which form in kidneys already the seat of a septic process and of acknowledged bacterial origin. Albarran[13] says: "In the secondary calculi the microbes furnish a double cause. They decompose the urea and produce the organic matter which binds the salts together."

The so-called primary stones are composed of uric acid, urates, oxalate of lime and bibasic phosphate of lime. The rarer forms of cystin, xanthin, indigo, etc., will not be considered. It is the belief of the author that these primary stones are likewise of bacterial origin, and that the composition of the stone depends, not alone on the composition of the urine at the time, but also on the kind of microbe present. The urine is an extremely complex fluid. How our knowledge of this fluid has increased, during the past few years, may be surmised when it is stated that Foster, in his physiology of 1880, mentions fifteen constituents of the urine, while Bouchard's Pathologie Générale, 1899, mentions forty-four, about three times as many.

I have made a number of experiments for determining the influence of certain bacteria on the production of different precipitates in urine. The urine is acid in reaction, as is well known, owing to the presence of monosodium phosphate; the amount of this present has much to do in determining the nature of the precipitate.

If to a quantity of freshly drawn urine in a test-tube, acid phosphate of sodium be added, in a short time beautiful crystals of uric acid will be deposited at the bottom of the tube. However, if to a control-tube of the same urine, prepared in the same manner, a drop of formalin be added, no uric acid whatever will be precipitated. This restraining action of the formalin on uric acid precipitation is very interesting. Only a minute quantity of formalin is necessary, and if too much be added insoluble quadri-urates are directly formed.

The effect of inoculating urine with the colon bacillus, and maintaining at the body temperature in a brood-oven, varies somewhat according to the amount of sodium phosphate present and as to whether a mono- or dibasic salt. In very acid urine the crystals formed are large spear-pointed dibasic calcium phosphate. When less sodium phosphate is present, acid urates or uric acid may form. As the colon bacillus does not decompose urea, the urine remains acid or even becomes more strongly so. Urine inoculated with the staphylococcus pyogenes aureus deposited large dumb-bell crystals of acid ammonium urate. One of the most important features of the formation of these crystals is their accumu-

lation in masses. This tendency is due directly to the growth of the bacteria and their agglutination to form zooglea masses. These latter become infiltrated with the characteristic crystals so that little clumps of considerable size are formed, composed of the crystals, bacteria, epithelial cells and granular matter held together by an agglutinating substance produced by the bacteria. Such masses adhering to the wall of the pelvis of the kidney, or resting in some nook of a calyx, may form the starting point or nucleus of a calculus. About this nucleus the salts of the urine crystallize, the particles being held together by an agglutinating framework of organic matter.

If we turn now to the clinical aspect of the case, we find substantiation of the assertion that all renal calculi are of bacterial origin. It is a well-established fact that the kidneys eliminate microbes whenever they are present in the blood, and usually without themselves becoming invaded by the microbes. The experiments of Biedl and Krans[14] in this direction are very interesting. The condition known as bacteriuria, in which bacteria—frequently the colon bacilli—are eliminated in the urine for considerable periods of time, is not uncommon. While the kidneys are not the source of the bacteria in all cases, they are in many, and Nicolayson[15] calls attention to the frequency of bacteriuria as a cause of enuresis diurna in children, and mentions Rovsing's two cases in which the bacteriuria was accompanied by small renal calculi. Baginsky[16] states that he has found the colon bacillus in the urine of infants suffering with intestinal troubles, and that the bacilli at times cause a pyelonephritis. He has found masses of the colon bacilli in the pelvis and canals of the kidney.

Finkelstein and Posner[17] have also found little clumps of colon bacilli in the urine of infants. Senator[18] says the uric acid infarcts of the new-born disappear if the child lives and develops well, but "in weak, badly nourished infants, especially such as suffer from vomiting and diarrhea, an infarct mass may be the starting-point of a stone in children." The connection between intestinal disturbances and the appearance of the colon bacillus in the urine in infants has just been mentioned.

Eichhorst [19] mentions the case of his own son, age 10 years, who, shortly after an acute attack of vomiting and diarrhea, with fever, passed several small, sand-like concrements with the urine. Ebstein,[20] in speaking of the connection between acute infectious diseases and stone formation, mentions two cases of uric acid stones following influenza or la grippe, and Alison[21] also calls attention to the association of uric acid stones with influenza. In the pregnant and puerperal state, infection of the kidneys is prone to occur. Vinay[22] particularly directs attention to the pyelonephritis of pregnancy, and Reed[23] has recently mentioned a case due to the colon bacillus. The importance of this is shown by the fact that, in women, many with renal calculi note the beginning of their trouble shortly after a confinement. This association was shown in one of my own cases; in one reported by Lennander[24] and two by Rovsing.[25] My own case was the uric acid stone already mentioned, in the center of which was found the short, rounded-end bacillus.

In Lennander's case, in addition to the stone, was found a brownish mass composed of a fibrinous, albuminous body, urates, coloring matter of the urobilin group and zooglea masses of colon bacilli. In both of Rovsing's cases agar-gelatin cultures made from the sterile-obtained urine developed the colon bacillus.

The child from whom I obtained the small calculus, already mentioned as containing a coccus resembling the staphylococcus, had suffered some months previously from a burn which suppurated for some time.

Rovsing (*l. c.*) mentions the case of a man from whose urine a pure culture of a white staphylococcus was obtained, which decomposed urea; also one of a woman from whose urine was obtained a culture of a staphylococcus which did not decompose urea and a bacillus resembling the colon bacillus. Bartlett[26] reports a case of a calculus of the left kidney in a man who had suffered for years with general digestive troubles, and from whose urine was obtained a streptococcus of undetermined variety.

The foregoing illustrations have been selected from the class of so-called primary stones, as the dependence of secondary stones on bacterial decomposition of the urine has long been recognized.

Based on the above-mentioned facts, experimental and clinical, I think we are justified in making the statement that practically all kidney stones are of bacterial origin. The subdivision of kidney stones by Albarran, into primary and secondary stones, the former being considered of non-bacterial origin, and the latter of bacterial origin, however, is of great practical value, as will be seen later, if we base the classification not on the character of the stone, but on the state of the kidney. In primary stones the bacteria are eliminated by the healthy kidney. They develop in the urine in the tubules, calyces or pelvis, where they lead to the stone formation, as above described, without invading or setting up pathologic changes in the kidney proper.

In secondary stones the kidney is already the seat of active bacterial invasion, and the stone formation is subsequent thereto. The great danger of primary stones is that they may determine bacterial invasion of the kidney, in which case they thereafter partake of the nature of secondary stones. Kidney stones may exist at any time of life, from early infancy to advanced old age, but are most common between the ages of 30 and 60. The symptoms may be discussed under three heads: 1. Pain, including tenderness. 2. Changes in the character of the urine. 3. Abnormal urination.

The pain is of two kinds: acute intermittent paroxysms which are so familiar to all under the name of renal colic, and the dull, more or less constant ache in the lumbar region or the lateral abdominal region. This pain is usually increased by exercise, and may radiate in most any direction, downward to the bladder, upward to the costal region, across the abdomen or into the thigh. Morris, in his "Renal Surgery," mentions some very interesting and instructive cases, showing the bizarre character which the pain of renal calculus may, at times, assume. One of the most important features of the pain is the fact that it may rarely be located on the side of the body opposite to the kidney affected. Such a case is mentioned by Tuckerman.[27] The pain and tenderness were both on the opposite side. Battle[28] mentions a similar case. Persistent pain in the latero-lumbar region, or radiating in any direction from this region, which is otherwise unaccountable, should always excite a suspicion of renal calculus. Tenderness over the region of the kidney, or along the ureter, is often present and may be of some importance in determining the side affected.

Under the head of urinary changes, we may mention the presence of blood, pus, epithelial cells, crystals and bacteria in the urine. The character of the hematuria is of some diagnostic importance. A sudden macroscopic hematuria is probably not due to a stone in the kidney. We more commonly meet with microscopic hematuria. The rather constant presence of a few red blood-cells in

the urine discovered only with the microscope, which quantity of blood may be increased by exercise, such as dancing, riding, driving, etc., to visible proportions, is quite characteristic of kidney stone. The hemorrhage is due to the local action of the stone on the walls of the cavity which contain it, and is proportionate to the roughness of the surface of the stone and its degree of mobility. A small movable stone may excite considerable bleeding, and a very large fixed one almost none. Pus in the urine is simply indicative of an infection of some portion of the urinary tract. With the exception of the secreting cells of the kidney, we are unable to determine, by their appearance, from what part of the urinary tract the epithelial cells have had their origin. The rather frequent or persistent presence of particular crystals in the urine, in considerable amount, may give us a hint as to the character of the stone present.

Bacteria in the urine are of diagnostic importance, aside from determining the kind of infection, only when taken in consideration with other symptoms. It will be seen that the urinary changes in themselves are not diagnostic of renal calculus, for the simple reason that we are unable to tell, from their mere presence alone, from what part of the urinary tract the pathologic products have had their origin.

In order to be certain of their origin, it is necessary to collect the urines directly from the kidneys, either by catheterizing the ureters or the use of the urine segregator. The former procedure is difficult, and to the majority of physicians impossible. The use of the latter instrument is much simpler, and has afforded valuable information, not only as to the location of the pathologic process, but as to the kidney involved. The value of uranalysis in the diagnosis of renal calculus has been well stated by Rovsing (*l. c.*), who says: "A careful examination of the sterile-obtained urine is of the greatest importance. If we find the urine perfectly normal in a patient, with pain simulating renal colic, we may, with almost certainty exclude nephrolithiasis, for a calculus that produces pain gives rise to pathologic elements in the urine, albumin, epithelial cells, red and white blood cells, crystals, sometimes casts, etc. A bacteriologic examination must always be made, whether pyuria or hematuria be present, to exclude confounding with tuberculosis, which, in the beginning, often announces itself with hematuria, with or without renal colic, and later is accompanied with pyuria." While, as stated, a stone which gives rise to pain almost always gives rise to pathologic elements in the urine, it should not be forgotten that we may have a stone fixed in the parenchyma of the kidney, giving rise to pain for years without the appearance of any pathologic elements in the urine, as has been reported by Müller.[30]

Dr. L. L. McArthur was probably the first in this city to recognize a renal calculus by means of the X-ray. Since then the value of this agent in the diagnosis of kidney stones has been repeatedly demonstrated. It should be remembered, however, that the X-ray is of value only in a positive sense, that is, when an unmistakable shadow of the stone is cast. The presence or distinctness of the shadow depends on the nature of the stone. Oxalate of lime stones cast the darkest shadow, white urate ones are often invisible. If no stone is visible, therefore, by the X-ray, it is no evidence whatever that no stones are present, as numerous reported cases in the literature demonstrate. Makins[31] mentions a case in which there were sixteen stones in the kidney, yet no evidence of their existence was visible on the plate. It is highly probable that improvements in plates, apparatus and methods will greatly enhance the diagnostic value of this discovery.

A very important point in this connection is the frequency with which both kidneys are simultaneously affected. This has been variously estimated at from 10 to 50 per cent. The statistics of Albarran, which place the percentage at 16, or about one case in six, are probably not far from the truth. The importance, therefore, of always carefully examining the urine of each kidney separately in every case of suspected stone, is apparent.

Before proceeding to the treatment we will briefly mention the dangers to which a patient is constantly liable who is the subject of a renal calculus. In primary stones there is the constant danger that the kidney may become invaded by microbes, thus producing a septic local or general nephritis, which not only tends to the destruction of the kidney as a secreting organ, but is a constant source of infection to the system. The stone may partially or temporarily obstruct the ureter, leading to the production of a hydro- or pyonephrosis, with eventual destruction of the kidney. Complete obstruction of the ureter may occur, causing sudden and complete anuria, a condition of the greatest danger to the life of the patient. With these dangers constantly present it needs no argument to support the statement that every case of kidney stone is a serious condition that demands radical treatment. So far as the medical treatment is concerned, I know of none except it be symptomatic.

The possibility of dissolving a stone in the kidney seems as remote as that of dissolving one in the bladder, a hope long since abandoned by surgeons. The usual alkaline springs that have enjoyed a favorable reputation in these cases are often productive of more harm than good, and Rovsing (*l. c.*) quotes cases in which he thinks the stones were undoubtedly increased in size rather than diminished by the treatment. Albarran[32] says: "When the diagnosis is made one ought to interfere." The stone should be removed and there is, at present, no other way except by operation. It will be impossible to describe in detail all the points connected with the operation for kidney stone. The points will be but briefly dwelt on.

The kidney should be approached by the lumbar route. After being thoroughly freed, it should be carefully palpated. If no stone be felt, it should not be concluded that none exists, but the kidney should be freely incised along its convex border so that the interior of the pelvis can be thoroughly explored. Needling is quite unsatisfactory, and any kidney that has given sufficient trouble to warrant its being cut down upon demands a careful examination inside as well as out. Zondek[33] says that the blood-vessels of the kidney do not divide exactly in the sagittal line, but a little posterior thereto. He recommends that the incision be made accordingly, as at this point the hemorrhage will be the least. A kidney should not be incised unless it be under the complete control of the operator, so that the hemorrhage which arises may be easily controlled by pressure. It is not advisable to clamp the renal vessels during the operation, as there is not only danger of injuring the vessels in the attempt to adjust the clamps or by too firm pressure, but experiment has shown that if the kidney be deprived of blood for more than fifteen minutes, degenerative changes in the secreting cells are liable to ensue. Every portion of the interior of the kidney should be carefully examined so that nothing escape detection. When found, the stone or stones should be gently removed, so as not to lacerate the kidney tissue. If too large to be removed entire, it should be crushed and removed piece-

meal. The interior of the kidney should then be flushed with warm, sterile salt solution, so that no portion of the stone may remain behind to furnish the nucleus for a recurrence. The patency of the ureter must always be demonstrated. The hemorrhage should be controlled by hot water and pressure, and care taken that no blood clots be allowed to remain in the pelvis, as they may form the nuclei of new stones, as reported by Tuffier.[34] The incision in the kidney is now closed with catgut, and the external wound closed with the exception of a small gauze drain leading down to the kidney, as a provision against leakage. Should all go well, at the end of forty-eight hours the gauze drain should be removed and the wound completely closed. This is the operation of nephrolithotomy in a kidney not the seat of bacterial invasion. When the kidney is already septic, as in secondary stones, primary suture is impossible and drainage must be established. However badly the kidney may appear to be involved, primary nephrectomy in these cases is seldom advisable. It will be impossible to enter into the details of the various operative procedures that have been instituted for the relief of the numerous complications, such as ureteral calculi, strictures of the ureter, sacculated kidneys, abscesses, etc., which may be present in these cases. When both kidneys are affected, it may be necessary to do a double operation, as mentioned by Wagner,[35] Pinner,[36] Godell and Turner (quoted by Wagner).

The mortality of operation for stone in the aseptic kidney, as given by Albarran (*l. c.*), is a little over 3 per cent.; in septic kidney over 10 per cent.

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PATHOLOGY OF RENAL NEOPLASMS.*

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During the past ten years great progress has been made in the pathology of renal growths. Uncertainty and confusion existed in our knowledge of their nature previous to that time. At present the diagnosis of renal tumor or cancer will not suffice. Microscopic examination must be carried out in every case, and growths should not be reported in the incomplete manner formerly the custom. We now know that the tumors or new growths of the kidney belong to two groups: The benign, including the fibromata, the lipomata, adenomata and angiomata; and the malignant, that includes the carcinomata and sarcomata. An intermediate class is formed by the so-called Grawitz tumors, which may occur in a circumscribed form as benign or in a more diffuse manner as a malignant tumor. These various forms will be taken up in detail later.

In regard to the frequency of renal tumors, one author found only six cases of primary renal growth in 1400 autopsies. Virchow gives ½ of 1 per cent. as the rate of frequency. The kidney is an organ but seldom involved by secondary growths. Kelynack, in 195 cases of malignant disease, found secondary deposits in the kidney in 8 per cent. of the cases of sarcoma, and in 14.5 per cent. of those of carcinoma. These metastatic tumors do not reach any considerable size, and are generally not numerous. They might therefore be left out of consideration for surgical purposes in speaking of renal neoplasms. In regard to the frequency of the different forms, in 306 cases occurring in both sexes at all ages, there were 187 sarcomata, 142 carcinomata, 15 fibromata, and 12 adenomata. We thus see that for clinical purposes we might leave out the benign forms of new growths.

The etiology of renal neoplasms, like that of growths elsewhere, is still in darkness. Embryonic defects play a distinct rôle. The development of the kidney is very complex, and the inclusion of muscle fibers, both striped and unstriped, of bone and cartilage can be easily explained, some cells of the mesoblast being included in the primitive kidney. This explains the frequency of renal sarcomata in children. The growths arising from adrenal inclusions have been referred to as Grawitz tumors above. Heredity and traumatism seem to have but little influence in the etiology of renal new growths. A direct and not infrequently observed relation between calculi and carcinomata undoubtedly exists. They have been met with in association in a number of cases, and there is sufficient evidence to indicate a clear etiologic connection. Floating kidney has also at times been given as a cause for new growths, but without much evidence in favor of it. Race seems to have no influence. Renal tumors seem to occur more frequently in the male than in the female sex. In regard to age, Kelynack found that the tumor occurred below the age of 10 years in over 52 per cent. of 160 cases, and of these in about 60 per cent. below the age of 5 years. In regard to size, Spencer Wells has described a tumor weighing sixteen pounds in a child of 4 years. The average weight of twenty-four growths below the age of 10 years was about eight pounds, and of nineteen above the age of 21 years, five pounds. In the average number of cases the general outline of the kidney is retained. This is not the rule, however, for in the nodular form of carcinoma the organ is enlarged at one pole only, while in the diffuse form it is symmetrically enlarged, and consequently much more difficult to diagnose. In all the varieties necrosis, fatty changes and hemorrhages are very likely to occur, and the latter clinically in the form of hematuria. Both sides are affected in equal number. The sarcomata are generally soft, although they may be cystic; the carcinomata harder and more elastic. Renal growths may spread by direct continuity of tissue, by the lymphatics, or by the veins. The growth most frequently pushes aside the organs and tissues of the abdomen, frequently causing ulceration of hollow viscera. Growth into the

*Read before the Chicago Medical Society.

pelvis of the kidney, into the perinephritic tissue and along the vessels of the hilum frequently occurs quite early. The secondary growths are generally found late, and are not extensive. They occur most often in the liver and lungs.

In regard to the duration of renal tumors, the maximum time for sarcomata is 2½ years, the minimum six to eight months. The adrenal inclusion tumors in carcinomata may exist for years.

Pneumonia or secondary growths in the heart or lungs are the most frequent cause of death. The benign growths are of little importance, and I will simply mention the different varieties; fibromata, that occur in the form of pea to bean-sized, firm, whitish nodules; lipomata, which are either in the pelvis or below the capsule. True lipomata are extremely rare. The other varieties of benign growths are the angioma and the adenoma. The latter change very rapidly into carcinoma. The sarcomata form the majority of renal tumors. They may occur in fetal life, although most frequent in children, as stated above. They grow rapidly, and often without symptoms. They are usually of a round or spindle-cell type, and not infrequently striated and nonstriated muscle-fibers occur. These latter are due to the inclusion of some of the primitive muscle plates. Myxomatous changes and cyst formation are quite common. Angiosarcomata occur, but are quite rare. Carcinomata occur either as alveolar, glandular, or as papillomatous forms of tumor. They may be diffuse or nodular. They originate from the epithelium of the tubules and are subject to the same degeneration as elsewhere. They do not generally grow as large as the sarcomata, are more frequent in men above 50 years old, although a form of this variety of new growth may occur in children. Epitheliomata may arise from the pelvis of the kidney, usually from a papilloma.

The relation of renal growths to the suprarenal capsule has attracted considerable attention of late years since Grawitz, in 1883, described a form of tumor which had always been called a lipoma, as a new growth due to the inclusion during embryonic life of portions of the suprarenal tissue within the kidney. He proposed the name aberrant adrenal tumor. These may remain quite small, and only be discovered at the autopsy, or may grow very rapidly, as in the case reported by Dr. McArthur and myself, produce metastases, and we have all of the characteristics of a malignant growth. Their structure resembles that of the outer zone of the suprarenal body in having cells arranged in rows containing drops of fat and glycogen. In closing this brief description of the tumors of the kidney, I would like to call attention to the fact that much remains to be investigated in this field. Every tumor should be carefully described and subjected to microscopic examination, and confusion will no longer exist in regard to renal neoplasms.

DISCUSSION ON PAPERS OF DRS. M'ARTHUR, HARRIS AND EISENDRATH.

DR. MAXIMILLIAN HERZOG discussed the peculiar mixed tumors of kidney. He pointed out that we are indebted to Birch-Hirschfeld for having first successfully cleared up the confusion which prevailed as to these new growths, and then quoted, at length, the views of this author regarding the histogenesis of these neoplasms, and also those of Wilms, who contested the theories of Birch-Hirschfeld. Dr. Herzog then narrated his own views as to the histogenesis of these tumors, considering it necessary to enter very briefly into a discussion of the development of the myotomes and of the Wolffian body. These structures are developed from the early mesoderm, which is first differentiated into the myotome and the lateral plate. Between these structures there is formed a thin bridge known as the nephrotome. In the latter the transverse excretory tubules of the Wolffian duct are formed. When these tubules develop, the nephrotome becomes entirely cut off from the myotomes. This is in short the normal course of events.

With reference to the embryonal, renal adenosarcomata of childhood, he assumes that they owe their origin to an inclusion which is formed in the following manner: The nephrotome is not cut off at the normal site, but in such a manner that a part of the myotome is severed from the main mass and remains in connection with the nephrotome. The separation may take place so that only a part of the myotome proper is cut off, or a part of the sclerotome may likewise be taken along. If the former is the case, we have the matrix for striated muscle fibers only; if the latter occurs, we have also the matrix for cartilage. If, now, it is assumed that a part of the nephrotome (Wolffian body), to which tissues of the myotome have become adherent by an abnormal process of embryonic separation, becomes included in the permanent kidney, we have a matrix containing all those embryonic elements which occur in the mixed renal tumors, namely, striated muscle-fibers, cartilage, other connective-tissue elements, and epithelial glandular structures. The latter are derived from the excretory tubules of the nephrotome.

This explanation appears to Dr. Herzog the most feasible one, in that it will account for the character of these peculiar renal neoplasms without being compelled to take refuge in metaplastic processes unheard of in tumor formation.

The material forming the basis of his studies concerning mixed neoplasms of the kidney, and to which he now calls attention, consists of three tumors.

The first case was one operated on by Dr. Denslow Lewis. It was an enormous tumor weighing 5½ pounds, removed from a girl, 16 months old. This, from a histologic standpoint, presented the most perfect type of a mixed embryonal renal tumor or the embryonal renal adenosarcoma of Birch-Hirschfeld. The glandular epithelial structures were beautifully developed and the connective-tissue elements contained a preponderance of striated embryonal muscle-fibers. In some parts the tumor looked like a pure rhabdomyoma.

For the second tumor which he showed, he was indebted to Prof. L. Hektoen, who had diagnosed it as an embryonal renal adenosarcoma. This tumor came from a child about 2 years old. Histologically the neoplasm showed epithelial, glandular structures, and various connective-tissue elements. Striated muscle-fibers were not found, in spite of a careful search for them.

The third tumor was from a child 9 months old, who came under the observation of Dr. Frank Churchill, and was operated on by Dr. M. L. Harris. He had examined the tissues of this tumor from thirteen different places, yet he had not been able to find any epithelial glandular structures, but only connective-tissue elements of very heterologous types, yet without any striated muscle-fibers. This third tumor, like the two preceding ones, presented those clinical features as they were enumerated above, as characteristic of the embryonal mixed tumors of early childhood. It therefore clinically belonged to this group; yet histologically it presented that type the possible occurrence of which Birch-Hirschfeld predicted in his article on the embryonal adenosarcomata of the kidney, a type characterized by a most extensive embryonal connective-tissue proliferation, yet without epithelial glandular structure, which would therefore have to be classified as an embryonal renal pure sarcoma. The third case presented a tumor of this type.

DR. WELLER VAN HOOK said that before an operation is undertaken on a kidney, the normal one, and the supposedly abnormal one also, are to be considered. For a knowledge of the abnormal one and its condition, the surgeon depends partly on palpation, but very largely on the urinary findings. In the latter he spoke of hemorrhage, which is of particular importance. The urine should be frequently examined for weeks. Having established the presence of blood in the urine, even in microscopic quantities, it is very important to determine its origin. Any examination of this kind is not complete without a cystoscopic one. As illustrating the every-day importance of the use of the cystoscope, he detailed two instructive cases.

In 1892, without having heard of the work of Fenger, he incised the skin and aponeurosis, separating the muscles over the left kidney, which proved to be normal, in a case in which the right kidney was tuberculous. In 1893, Dr. Fenger published the report of a case on which he had operated in 1890 by this method, determining the presence, size, and the proper consistency of a supposedly normal kidney. He spoke of this because in all cases since then, in which he has thought it desirable to remove the kidney, he has palpated the supposedly normal kidney in this manner. An incision two inches in length in a patient who is not more than ordinarily fat can be made, and the kidney easily palpated without running the risk of subsequent hernia. The risk of infection is slight.

Dr. E. Wyllys Andrews said that neoplasms of the kidney of the type under discussion were essentially insidious in their development. They have been repeatedly mistaken in diagnosis for other forms of abdominal tumor. The cachexia characteristic of these growths in other locations is frequently absent in kidney neoplasms. The tumor is not always easily palpable, and in many instances it is overlooked simply because careful examination is not made. When such a tumor is found, it is usually rounded, and somewhat easily palpable. Pain is a symptom of value in the diagnosis. It is of a dull, aching character, and not increased by walking. It may be absent, however, in some cases. The treatment of these renal neoplasms is surgical. He thinks one can hardly overestimate the value of the Harris segregator. It is an instrument easy to use, and it gives positive results in a large proportion of cases, with very little risk to the patient.

Dr. Gustav Kolischer disagreed with Dr. Harris that we can rely for diagnostic purposes on pain and dulness in the region of the kidney, also the examination of the urine, collected and separated from each kidney by ureteral catheterization, or by the use of the Harris instrument. Many cases are met with in which the urine can not be collected satisfactorily from each kidney, hence the surgeon is unable to draw any definite conclusion from the small amount of urine passed. The greatest value of ureteral catheterization, or, better still, ureteral sounding, lies in whether the ureter is permeable or not, or whether there be a stone in the ureter or in the pelvis of the kidney. Cases occur in which it is impossible to locate the exact seat of the pain, for the reason that it radiates all over the chest, stomach and abdomen; at the same time, the patient may be in such a critical condition as to call for immediate interference. Sounding of the ureters in such cases is a valuable diagnostic measure. Dr. Kolischer then, by means of sketches, showed what can be accomplished by ureteral sounding. It is possible to push a stone back into the pelvis of the kidney, rendering it accessible for surgical interference later. In his opinion, ureteral catheterization can be resorted to successfully only by experts. The same is true of the Harris segregator. The latter instrument should be used only by skillful and trained hands, because the urinary organs are not to be trifled with.

Dr. Edward H. Ochsner discussed the historic aspects of adenoma of the kidney and of the so-called adrenal tumors described by Grawitz. The aberrant tumors of Grawitz cause severe systemic disturbance; the principal symptom is greatly increased arterial pressure. The patient rapidly becomes very sick, and dies usually with a hemorrhage into the brain or other important structures.

Dr. James B. Herrick said that adrenal tumors not infrequently produce bone metastases in the same manner as tumors of the mammary gland, of the prostate, and of the thyroid, so that in case of bone metastasis, where the primary trouble can not be exactly located, the region of the kidney should be interrogated for possible tumor of the adrenal.

As to the diagnosis of renal neoplasms, some authors place considerable stress on the occurrence of varicocele on the right side as indicative of pressure on the spermatic vein, while others give it a passing notice. In renal tumor there may be a distinct systolic bruit or murmur, sarcomata rich in blood-vessels may give rise to a very loud systolic bruit, and with a palpable tumor aneurysm might be suspected. A tumor of the kidney may simulate an aneurysm by pulsation. The distinct expansile pulsation may be pronounced in cases of renal tumor rich in blood-vessels.

A few weeks ago Dr. Murphy showed him a case in which there was a large mass in the left side of the abdomen, in front of which was the colon. The patient, a man, 40 years of age, had had some hematuria, and showed distinct secondary anemia and cachexia. This mass enlarged very rapidly as the symptoms only dated back two or three months. He has never seen, in any case of aneurysm, a more perfect expansile pulsation than there was in this large mass. From the hematuria, the location of the mass—which reached to the median line and bulged between the flanks—the cachexia, and the relation of the mass to the colon, it seemed to be a large tumor of the kidney.

Dr. Bertram W. Sippy has had occasion to look up the subject of tumors of the kidney very thoroughly from a clinical and pathologic standpoint, and, so far as he knows, there have been only four cases reported in which adrenal tumors of the kidney have been accompanied by greatly increased arterial tension. Two cases, which he observed post-mortem in Vienna, were accompanied by cerebral hemorrhage sufficient to cause death. The arterial tension was high in these. Neisser has reported a case in which the arterial tension was very high, likewise Dr. Holmes. He did not consider increased arterial tension a very valuable diagnostic sign, because in twenty-nine cases reported by one author no clinical manifestations were noted.

Dr. Frank Billings does not think the treatment of renal calculus is purely surgical, for there are many cases which, by the grace of God, and the drinking of lots of water, get well, and nothing further is heard of them after the first attack. It is not unusual, in taking the histories of patients, to have them say that they have suffered from renal colic years before, and have escaped further attacks. He has had, in his own experience, patients who suffered from renal colic at intervals of every two or three years, but who, under a systematic course of hygiene, careful dieting, plenty of fluids, as diluents, would cease to have these attacks, and he believes that such hygienic treatment is scientific and not entirely symptomatic. While he has not looked up his case histories, nor would he care to state exactly how many cases have been operated on, yet he believes that he has had more recoveries from such treatment as he has mentioned than from operative intervention.

Dr. Harold N. Moyer saw at least a dozen cases of renal calculus in the years of his earlier practice that were not operated on, and the patients are well to-day.

Dr. L. L. McArthur, in closing the discussion on his part, emphasized the use of the ureteral catheter in septic conditions of the bladder. The segregator should be used rather than take the chances of infecting one kidney which it is hoped is normal.

Dr. Daniel N. Eisendrath narrated a case that was operated on by Dr. McArthur and himself with unfortunate results. A man came to him three years ago, presenting all the symptoms of renal calculus. Operation was advised, but refused. The man was placed on medical treatment for nearly two years, at the end of which time he returned with pyuria. He was very much emaciated, and had chills and elevation of temperature. The urine was carefully examined with the Harris segregator, with a view to determining the working capacity of both kidneys; apparently each kidney secreted the normal amount of urine, although the urine secreted from each side contained some pus corpuscles. The percentage of urea was normal, and there was no albumin other than that which could be ascribed to the presence of pus corpuscles. Operation revealed several large stones in the pelvis of the kidney with quite an amount of detritus. Later the man developed anuria, and died. Post-mortem examination showed a kidney considerably smaller than normal on the opposite side. In addition to one large calculus, the six or seven smaller ones removed varied in size from a pea to a marble, each one of which showed the characteristic phosphatic coating over the urates, showing that medical treatment had resulted in an extra deposit of the previously existing calculi.

Dr. M. L. Harris, in rebuttal, stated that Dr. Kolischer had misunderstood him. He did not say in his paper that the only value of catheterizing the ureters was in collecting the urine from each kidney. He did not go into details regarding this point in his paper.

THE PHYSICIAN AS A WITNESS IN COURT.*

BY WM. J. HERDMAN, M.D., LL.D.

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In order that we may get a condition which seems to demand remedial measures well before us, the first thing to be done is to make a careful diagnosis. If all the rumors we have heard and the symptoms we have witnessed are to be taken as evidence, the medical expert witness is certainly in a bad way. He needs a thorough course of rational treatment, and that quite speedily, if he is henceforth to perform any function in the healthful activities of human affairs. His defects are of long standing, and are apparently due to some radical defects in his organism. It is a *constitutional* disorder, we would say, and needs strong alterative treatment.

In addition to such evidence as each of you could furnish from your personal experience and recollections, I will present the testimony of some who have put themselves on record and have had abundant opportunity to observe the condition of this witness, and have earned the right to speak with authority about him. One says: "The expert is a topic of the time, he has also been a problem for a long period, and he is almost becoming a scandal[1]." Another says "When it comes to the testimony of experts, that is the subject of everybody's sneer and the object of everybody's derision. It has become a newspaper jest. The public has no confidence in expert testimony[2]." And a third says: "Expert evidence so-called or, in other words, evidence of the mere opinion of witnesses has been used to such an extent that the evidence given by them has come to be looked upon with great suspicion both by courts and jurors, and the fact has become very plain in any case where opinion evidence is admissible, that the particular kind of an opinion desired by any party to the investigation can be readily procured by paying the price therefor[3]." Still another says: "It is generally safer to take the judgment of unskilled jurors than the opinion of hired and generally biased experts,"[4] while a fifth says: "Skilled witnesses come with such a bias on their minds to support the cause in which they are embarked that hardly any weight should be given to their evidence[5]."

This language, which is that of advocates and judges, characterizes a system. "It virtually calls that system a vice. Indirectly it argues and almost demands the abolition of that system. The court has not the power to abolish it but the court has done all the court could to degrade it[1]."

But words of condemnation of the present situation do not emanate from lawyers only. Members of the medical profession are none the less outspoken in denunciation of it. One prominent physician in the East has recently written: "Need of reform is undeniable, and the courts do not exercise sufficient care in fixing the status of medical witnesses. The strictures of legal writers, courts and others are just so far as the existence of demoralization goes. As the law is administered many persons can be found who are ready to arrogate knowledge and position they do not deserve. The dignified alienist of experience and reputation is confronted by the impostor, whose glib manner and bizarre 'popular science' sometimes impress the susceptible juryman as does the proprietary medicine advertisement and whose experience of medicine and its exponents is confined to the quack or the cure-all[6]."

The united medical sentiment of the West is expressed in the following: "the displays of medical expert testimony in recent noted trials are not creditable to the medical profession, have not promoted the cause of justice, and have not protected the interests of society nor aided in the suppression of crime[7]."

This glance at opinion put on record as to the present status of the expert witness in general, and of the expert medical witness in particular, reveals the condition as altogether bad. And I know quite well that the words I have chosen to quote express but mildly the convictions reached by each physician regarding the abuses to which the present practice of employing expert medical witnesses has led. You have all been treated, as I have often been, to the mortifying exhibitions it has given rise to in court, and you have turned with disgust from the palpable evidences of weakness, cupidity, or ignorance in a fellow creature, which it has revealed, or have been convinced of the utter futility of aiding the cause either of truth or justice by such testimony as could be elicited under these conditions from a confessedly honest and competent witness. The court, the advocate, the expert witness himself, the jury, the plaintiff, the defendant and the interested observer have again and again raised their voices in protest against the mockery of the present method of expert testimony.

What is then to be done? Shall the practice of employing opinion-witnesses be abolished? There are not wanting those who would willingly adopt this course if it was one that was at all possible.

There are diseases which at times become so loathsome and distressing, both to the patient and to his friends and attendants, that we would fain subject the offending portion of the body in which the disease resides to prompt removal by the surgeon's knife. But the part or limb diseased may be vital to the welfare of the body, and it can not be sacrificed. By means of it the healthful and perfect operation of that body can alone be maintained. More rational if less radical measures must be sought, through which restitution may be brought about and the proper function of the part established.

"There can be no doubt that the function of expert witnesses is a most valuable one and is in fact indispensable to the proper administration of justice in the courts[8]." When properly chosen, he is a storehouse of truth of a certain order, and to that storehouse we must go when truth of that special nature is needed. He alone can furnish it.

Since, therefore, we can not, if we would, abolish the expert witness from the court, we must set ourselves about correcting the abuses which have grown out of the practice of employing him. This we can do only by seeking to determine what is his true function, and by observing thereafter the conditions necessary to maintain it.

The expert witness is an opinion-witness. He is defined in the "Century Dictionary" as "a person who by virtue of special acquired knowledge or experience on a subject, presumably not within the knowledge of men generally, may testify in a court of justice to matters of opinion thereon, as distinguished from ordinary witnesses who can in general testify only to facts." The medical expert witness is then one who presumably possesses special acquired knowledge and experience in certain of the subjects which come within the science and art of medicine and surgery, and is thereby qualified to speak with authority thereon and to express an

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opinion which will coincide with the generally accepted views of the medical profession on the questions raised.

In the meaning of the term which designates him as expert, he must possess at least acquirements equal to the average of those members of his profession whose opinion he assumes to express. Since he is called to give an opinion on the application to the case in question of the laws and principles of the science and art of medicine, he is a witness whose utterances partake somewhat of the nature of judicial rulings. He is to this extent an associate of the trial judge in setting forth the principles and rules which should govern the jury in arriving at just conclusions on the facts brought out by the trial.

The judge on the bench lays down the rules of human law, as they have been established by precedence and practice in the most enlightened countries, *while the chosen representative of the medical profession has for his function to state the rules and principles that should determine decisions and guide conclusions in dealing with facts within the realm of medical science.* It is the duty of the medical expert to discharge this special function with judicial impartiality and fairness. Without fear or favor he should be guided solely by the requirements of his professional knowledge, in stating his opinions, and purge them from all taint of bias or leaning toward the interests of either party in the suit. This is the attitude that truth and justice demand of him, and it is because of his failure to maintain this attitude, either by reason of personal unfitness or of opportunity, that the expert medical witness has been brought into disrepute.

The reasons why the expert witness does not discharge his true function are not far to seek. We will mention a few of them:

1. *He may not be a suitable selection.* Perhaps by reason of ignorance, although he may be a man fairly well qualified, in a general way, to discharge the duties of his profession, he may be wholly unfit to express an opinion on the question to be decided. So wide has the field of medical science and practice become that no one man, however learned and capable, can compass its entire extent, any more than a lawyer, however able, can be fully conversant with all branches of the law. The principles involved in the medical question at issue may be fairly well understood by all thoroughly instructed medical men, but when the question calls for opinions that can be formed only on the experience in some special field of practice, their value depends largely on the nature of the experience and practice which the witness has had. A surgeon is seldom fitted to express an opinion on a question involving the minute anatomy or pathology of the nervous system, or the neurologist to decide as to the most approved method of treating appendicitis. But quite as often the chosen witness is unfit by reason of dishonesty. We will not stop to discuss who is responsible for bringing into a court a witness of this character to serve the ends of justice. That he gets there in the guise of the medical expert is unfortunately too often the case. He may be a dishonest man, though capable, willing to "use the livery of the court of heaven to serve the devil in," or he may be a pretender and a fraud, with no just claim to pose as an exponent of medical science or to express an opinion as its representative, and yet he may be used to gain a point or influence a jury on matters requiring exact medical knowledge.

2. *He is acting under unnatural conditions.* The present practice of obtaining the opinions of experts renders those opinions valueless and misleading. If the expert is ignorant or dishonest, his opinion is of necessity either worthless or harmful. But the capable, honest man in the capacity of an expert medical witness seldom has an opportunity, under the present practices which prevail in the courts, to exercise his true function, and when that function is perverted the result can not be other than disappointing. Called by one side of the case, to bolster up with his medical knowledge the view which the interests of that side require, and given only such evidence as will support that view, none but a one-sided opinion can follow. The medical expert here assumes the rôle of the counsel and not that of the judge. Acting in a partial capacity, while an impartial decision is expected of him, can lead to but one result—disregard by judge and jury of the opinion expressed, and contempt for the author of it. No credit accrues to the man who allows himself to be placed in a false position and prostitutes his learning to ignoble ends or the propagation of what he knows to be half-truths, nor can the ends of justice be reached by such procedure.

If the object in placing the expert witness on the witness stand was for the purpose of obtaining from him the truth and the whole truth for the enlightenment of the court and jury, as far as his special knowledge can elucidate the question at issue, even then the circumstances would be unfavorable to the calmest judgment and clearest and most deliberate opinion of which the witness is capable. The training of the physician is seldom such as to fit him to express his thoughts in the clearest and simplest language before a curious and mixed audience, the most of whom are not familiar with the technicalities of his profession. Disconcerted by the method and manner of interrogatory or cross-examination, his mind is not in the condition customary to his habits of thought, and he is liable to make replies that convey impressions to his hearers very different from his true beliefs or intent, and this when he has the desire to be entirely frank and honest in all that he may say. But in addition to this he is, as a witness, still further embarrassed by the consciousness that he is placed there in the character of a defender of a half-truth or biased opinion. In this attitude of mind he is compelled to run the gauntlet of a strong array of legal talent hostile to his position and bent on destroying the weight of his authority or opinion. Under these circumstances the sorry spectacle which the medical expert often presents, and the incongruity of the testimony he offers, should not be at all surprising.

Even among members of the medical profession there is the greatest difference in the capacity of the individuals for maintaining the scientific attitude of mind. That is a state of mind wherein all facts bearing on the question in hand are sought for and each allowed its proper weight of influence in determining the conclusion reached. Training, habits of thought and action, preconceived opinions, all enter in to warp the judgment of even the most prudent and well-meaning.

Again, while medicine and surgery is rapidly increasing its claim to recognition as an exact science, and in many of its fundamental conceptions there should be no disagreement among the well-trained and well educated members of the profession, there is still much ground untilled, and in this latitude abundant opportunity remains for honest difference of opinion which it would be against the interests of truth at this stage of progress to attempt to reconcile. When to this state of things are added conditions which of necessity compel a bias and awaken a partisan spirit in the mind of the

most sincere and honest man, it need not surprise us that under such circumstances we obtain directly opposite opinions from men of equal learning and reputation in our profession when they are employed as experts.

Having now, I trust, established a rather clear diagnosis of the deplorable condition of the expert medical witness, and having pointed out some of the main causes that are responsible for that condition, the question arises: what are the remedies? The treatment must be somewhat radical, but the remedies, if they are desired, are at hand. They are these: 1. Let competent and honest men be chosen for medical experts. 2. Place them under conditions favorable to a judicial state of mind, and give them the freest possible access to all the facts on which they are expected to base an opinion.

In applying this treatment, the court, lawyers and physicians must act in concert. Both lawyers and doctors have taken part in casting reproach on the situation as it is, and there has been a disposition on the part of the members of one profession to hold the members of the other responsible for all the abuses that have grown out of it. The truth is, each must shoulder a share of the responsibility. The lawyer has created a demand for opinion-evidence in support of a one-sided view of facts, and the physician has been only too prompt to furnish it. The honor and dignity of both professions will be enhanced and the cause of justice promoted if they will unite on the purpose to bring about the needed reform.

Competent and honest men in the medical profession, worthy to act as medical experts, can usually be found within the jurisdiction of any court where such evidence is required. But how shall such selection be made? Whose province shall it be to designate those who are competent to act as experts, and how shall they be chosen? Various plans have been suggested for accomplishing this, none of which have seemed to me quite fair in all details or adequate to meet all the requirements. The practice in other countries may serve to enlighten us somewhat as to the direction our efforts of reform should take, but the difference between the conditions in this and any foreign country would prevent us from adopting outright any plan elsewhere in operation.

"In France the court may order an investigation and report by experts whenever it deems it advisable. If the parties can not agree upon the experts the court appoints them. They are at least three in number, and are generally, though not necessarily, selected from a list of specialists termed *experts assermentes*. The order directing the investigation contains a statement of its precise object and appoints a referee, or *judge commissaire*. Barristers, or *avocats* are not allowed to appear before the experts, but the parties are represented before them by solicitors (*avoués*) and sometimes by persons specially skilled in the matter of the investigation. The report must be signed by all three of the experts; and if there be a dissent, the dissenting opinion and the reason for it are set forth in the body of the report. The judges, however, are not at all bound by the report if it is opposed to their convictions."

"In Germany since 1870, under the code of civil procedure for the German Empire, after the issues are framed on which expert testimony is sought, the parties may agree upon the experts, and the court appoints those agreed upon, but it may confine the parties to a given number of experts. Sometimes the court submits to the parties the names of a number of experts and allows each side to object to a certain number of them and then appoints those remaining. There exists in Ger many a class of officially appointed experts on certai subjects, and in trials which concern these subjects suc experts have the preference in appointment, unless ther exists some special reason why they should not be ap pointed."

In Prussia it is said to have been the custom to ap point a physician and surgeon for every county. I addition there was a medical college in each province to which an appeal lay if the experts disagreed or th parties desired it. In addition to this there was a appellate medical commission for the whole kingdom.

But in Germany, as in France, the court is not con strained to follow the expert opinions, and if it is no satisfied with them it may order a new expert opinio from the same or from other experts[9].

In this country, within recent years, several attempt have been made to secure from the legislature of on and another state, action on bills that have been care fully prepared with the view of correcting some of th evils now attending the employment of the expert wit ness. The initiation in this action has, I am pleased t say, been taken in some instances by physicians, i others by lawyers. Six of the medical societies of Chi cago, instigated by the mortifying exhibitions made b expert medical testimony in the Cronin and Prendergas cases, recently appointed a joint committee of eighteen reputable physicians to draft a bill which was presented to the legislature of the State of Illinois for passage, backed by the recommendation of the Illinois State Medical Society. The provisions of that bill were as follows:

Be it enacted by the people of the State of Illinois in the General Assembly represented: That the judges of the circuit and superior courts of the State of Illinois, be and the same are hereby authorized to appoint in the month of January of each year, persons who shall act as expert witnesses in the medical and other sciences in giving opinion upon evidence, as presented in a hypothetical form, of criminal causes that may be on hearing in the courts presided over by the said judges. Such expert witnesses shall hold their said appointments for one year or until their successors are appointed and qualified. They shall be entered as expert witnesses upon a list of such witnesses kept by the circuit clerk, and the said clerk shall issue a certificate of appointment as such expert witness to the person appointed as above.

Such expert witnesses shall be citizens of the State of Illinois and shall be known in the communities where they reside for their professional competency and personal probity, and if physicians they shall have been at least five years in regular and active practice. When expert opinion is desired in any cause pending in a criminal court, the trial judge presiding in such cause may, at his discretion, summon for duty under this act, such expert witnesses to the number of three. Such expert witnesses shall be paid for their services by the county in which the trial for which they are summoned is held, in such sums as may be named by the judge.

It shall be the duty of such expert witnesses to give an opinion on the evidence as presented in hypothetical form in the case in which they are called. Such experts shall be subject to cross-examination by both prosecution and defense; but such cross-examinations shall be limited entirely to the subjects embraced in their opinion.

In criminal cases previous to trial, if the state attorney deems it advisable to have expert opinion he shall state to the court having jurisdiction of the cause, and the judge receiving such statement may summon expert witnesses to serve under this act.

Recent discussions on the subject of expert testimony in joint meetings of lawyers and doctors in Philadelphia and elsewhere in Pennsylvania, and the frequent allusions made in the medical and legal journals, to the

eed of reform, have resulted in a measure which has been brought before the present session of the Pennsylvania Assembly, and purports to have legal authorship.

This act calls for the appointment of one or more experts by the court. But such appointment is only to be made on petition of one or the other party to the suit, and, as we understand it, by mutual agreement. The experts are to be chosen by the court, either from names selected by the parties to the suit, or by the judge himself; or even, in some cases, two experts are to be chosen by one or other of these methods and a remaining expert is then selected by these two. In cases in which such official experts are appointed, the parties shall not have the privilege of calling their own experts as heretofore: but in cases in which no official experts are called, then the old method of each party calling his own experts shall prevail. In other words, the new rule permits the creating and choosing of a board of experts to be entirely optional and by mutual agreement. This, in itself, we think, defeats the purpose of the whole act, and would inevitably lead to a resumption of the old practice with all its solecisms and abuses.

An admirable provision, however, of this act, is that the official experts shall not, under penalty of fine or imprisonment, make known their opinions to either party, or to any person, before the trial. They must either be present at the trial, or must read a copy of the testimony, before giving their opinion. They are not to be called by, or to sit with, either party, or help him to prepare his case, but are to be called during the trial at a time determined by the court. They may, however, be cross-examined by either party. They may suggest to the court questions to be asked witnesses, but such suggestions may or may not be accepted by the court at its discretion. Either party has the privilege of moving to strike out an official expert's opinion on the ground of incompetency—a question to be decided, of course, by the court, subject to exception and appeal.

A most important section in this proposed act is the one abolishing the use of hypothetic questions, and requiring experts (whether official or not) to base their testimony on facts.

These official experts are to be paid by the county, or at least the money is to be advanced by the county, which can, in some instances, reimburse itself from the party to whom are adjudged the costs. This means, practically, that the county guarantees the fees—and in most criminal cases would really pay them.

The first earnest attempts to secure some betterment of the status in court of the expert witness through legislation were made as far as we know in the State of New York. Some of the severest strictures on the conduct of the medical expert witness have emanated from the New York bench, and the better element in the medical profession of that state, smarting under what they have had reason to regard as unjust criticism of the profession and its members, where the system was at fault, have made strenuous efforts in recent years to bring about improvement in that system. So far these efforts have failed to get on the statute book any enactment embodying the suggestions made. But, nevertheless, their endeavors have been educative and have done much to reveal to all thinking minds the true situation, and will in time prevail. The measure proposed by a committee of the New York State society provides for the appointment, in criminal trials, of medical experts by the *court or presiding judge,*

who shall appoint such expert witnesses, not exceeding three in number in each case, to pass upon all hypothetical questions. Said experts shall have access to all evidence, and to the person of the defendant, in the presence of all the experts called, as well as have power to examine medical witnesses as to their knowledge of the facts, and also to hear expressions of their opinions relative to the significance of observed facts, when willingly given. It should also be provided that the judge may hear proposals from counsel as to the appointment of experts in any given case. The expert or experts shall submit to the court, for transmission to the jury, a report in writing attested by their oath, setting forth their conclusions, together with the facts upon which they are based. The report shall be signed by all the experts taking part in the examination, providing they agree upon the essential points at issue, if not, a dissenting report or reports may be made by individual experts, the same as opinions are handed down from the Appellate courts. In case of a disagreement as to the essential points; the judge should have power to dismiss the report, together with the experts making such report, and appoint other experts should he deem it advisable. If counsel demand it, these experts may be sworn as witnesses, and cross-examined in such manner as the presiding judge may deem pertinent and necessary to the case.

The experts so appointed shall be persons of repute, holding a certificate of qualification as hereinafter described, in the particular branch of medical science to which the question calling for expert opinion relates. Compensation for such service shall be fixed by order of court, at a rate which shall be reasonable for professional services of such a nature, and paid in the same manner as other court expenses.

The above named certificate of qualification is to be issued by the Board of Regents, and filed in the County Clerk's office in the county in which the holder of such certificate is a resident, such certificate to be obtained in the following named manner:—

The applicant for a certificate of expert qualification shall furnish reliable evidence to the State Board of Medical Examiners, that he is legally qualified to practice in the State of New York, and is of good standing in the medical profession, that he has not less than 5 years' experience in the practice of the special branch in which he desired to qualify as an expert. On the passing of such examination to the satisfaction of said Board, there shall be issued to him, in the same manner as a license to practice is now issued, a certificate of qualification to give expert testimony in the particular branch or branches therein specified, and when properly filed, all physicians holding such certificate shall be eligible for appointment by the courts or may be called by the defense as expert witnesses. The testimony of any medical witness called by either plaintiff or defendant not holding such certificate, shall be restricted to evidence in fact.

We may safely conclude that these three plans, originating in the representative states of New York, Pennsylvania and Illinois, indicate fairly well the high-water mark of professional opinion, both legal and medical, as to what is possible and practicable in the way of reform so much needed in the matter of securing expert testimony.

The suggestions taken from all these sources that are found to harmonize may be epitomized as follows:

1. Experts should be appointed by the trial judge.
2. Their compensation should be made a part of the expenses of the court.
3. They should have abundant opportunity to investigate all the facts of the case on trial as far as they have a bearing on the opinion they are expected to deliver.
4. That opinion should be given to the court in writing, signed and sworn to.
5. Any dissenting expert opinion must be also in writing and contain a statement of the grounds on which the dissent is based.
6. The experts may be sworn as witnesses and cross-examined, but the range of the cross-examination is not to extend beyond the limits of the subjects embodied in the opinion which they have been asked to express.

It will, I think, be readily seen that the effect of the adoption of such suggestions as these, and their embodiment in statutory enactments, would be to put expert testimony on a higher plane than it at present occupies. If there is any additional suggestion that could be added, to advantage, it would seem to me to

be one which would insure beyond all question a class of honest and qualified experts from which the judge, plaintiff or defendant must select. This selection can not safely be left unguarded to be determined by those whose experience and training in no manner fits them for judging of the professional qualifications or integrity of a man whose life is occupied with matters foreign to their field of thought.

There is at present no uniform system in the various states by which the professional standing and qualifications of medical men can be fixed. The Board of Regents of the State of New York, and in certain other states the State Board of Medical Examiners, furnishes a safe and reliable means for putting to the test and passing upon the claims of any who may wish to be classed as experts in any special branch of medical science or art. It would be a simple matter in these states to institute the requirement that has been suggested in the New York plan, whereby no one would be eligible to be selected as an expert to testify in court who does not hold a certificate of competency from the legally-constituted authority.

In states where such a board of examiners has not yet been established, nothing would seem more fitting than that the representative medical organization of each county and state should, at stated or annual meetings, name from among their numbers certain ones who, in the judgment of the majority of that body, are regarded as competent to act in the capacity of experts and to stand as exponents of medical opinion on matters that may require for the proper administration of justice the kind of knowledge which medical science or art alone can furnish. This plan would readily furnish a gradation of courts for the expression of medical opinion. If the experts selected by the county society should not render an opinion satisfactory to the court or litigants, appeal could be made to the opinion of the experts selected by the state society, and so on, if need be, to those selected by the national association. The national association would thus exercise the authority, in matters medical, of a court of last appeal whose decision would be final. This would seem to furnish a working plan quite simple and feasible, and one that would be acceptable to all whose desire is to have defects and abuses in a most important matter remedied and the cause of justice advanced.

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DISCUSSION.

DR. CHARLES H. HUGHES, St. Louis, Mo.—The difficulty about this expert business consists in the rights of the litigants, the individual right to have such testimony as he deems proper to submit to the court and jury in his behalf. The court may select an *amicus curiæ*, and it does in many instances. It was only last month that I was selected to represent the court and yet each party had its set of experts. I made my examination as the friend of the court; the other gentlemen made examinations, and we harmonized on all the facts, but our conclusions were somewhat different.

Another difficulty in the way of expert testimony consists in the construction of courts on the subject. One thing we can insist on is the clinical qualifications of an expert. This will often throw out a great many experts who have had no actual experience. There should be personal verification. If the clinical test is applied by the courts, better results will be obtained.

DR. BISHOP, New York.—What we need more than anything else is a medical jury. Medical testimony is really no worse than any other kind; the trouble is that the jury is not capable of judging it. I have been interested in New York State in the proposed bill, and have gone over the matter very carefully, but it does not seem to me that it exactly covers the ground, or that it will be possible to exclude any experts that the counsel of either side wishes to bring in, but it will be possible for the public authorities, such as the Board of Regents, to select a class of men who are adjudged competent to be experts, and from these it would be possible for the court to select an expert, representing the court, who would hear any expert testimony that either side chose to present and then pass judgment on that as an assistant of the judge. This expert or assistant would, according to the plan I propose, hear as much testimony as either side would care to bring in, and then report his judgment to the court, this expert being subject to question and examination.

DR. BISHOP of Pennsylvania.—It is impossible to establish a law until you have first fixed on the facts upon which to predicate it. When any of these experts are called in for instance in cases of personal injury, they get a standing by testifying as to the facts within their own knowledge, and then testify as experts, and you can not exclude them. One advantage would be to bring the professions of law and of medicine into greater intimacy. I would suggest that medical men attend meetings of the legal and lawyers those of the medical profession. To some extent the judge does have something to do with the selection of the experts even under our present laws, because he decides whether or not a man is to be admitted as an expert. The unfortunate thing with professional men is that as soon as they get on the stand they wish to vindicate their knowledge, and they try to answer two questions with one answer. If they undertake to answer a double question they will very likely get into trouble.

DR. DENSLOW LEWIS, Chicago—The remarks of the essayist are of great interest to me. They display the same logical trend of mind which I was accustomed to recognize in him twenty-five years ago, when I was privileged to study anatomy under his supervision. The solution of the problem presents great difficulties which, I fear, will not be overcome during our lifetime. One fact, however, should be recognized. In actual practice physicians and other expert witnesses are called to assist counsel on one side or the other. They are not expected to give impartial testimony; they are to some extent partisans but they are not necessarily dishonest nor disreputable. Employed to assist counsel in the conduct of the case, they supply peculiar knowledge which the lawyers use to their best advantage. I have passed through an interesting experience, I might, perhaps, say a martyrdom, during the last nine years. It may interest the members of this Section, especially as it relates to the payment of the fee of the expert witness. In Illinois, since Nov. 1, 1897, the Dixon decision is the law, and that decision has to a great extent determined the law of the land. Very briefly I may say that Dr. Dixon, of Sangamon County, was called by subpena in a case involving some injury to a woman who had fallen on a defective sidewalk. He refused to give expert testimony except on the payment of a suitable fee. After two years of litigation the supreme court decided that the expert witness is only entitled to the statutory fee and mileage. My case was different. A woman was injured on the cars nine years ago. She called on me to treat her and also to assist her counsel in the conduct of her case against the railroad company. I was in consultation with her attorneys for several years, and, to make a long story short, after all appeals had been taken she received $9000 in cash. She then refused to pay me the modest sum of $100 for my services. When I sued her the circuit court rested entirely on the Dixon decision, and I was defeated. The judge practically decided that the Dixon decision had settled all matters relating to expert testimony, and that under no conditions could an expert witness collect more than the statutory fee. After several years of waiting the appellate court finally decided in my favor, and by this decision the rights of expert witnesses are to some extent conserved. It is

determined, moreover, that if a physician, at the request of a party to a suit, performs an extra service for such party in the prosecution of the suit, a contract for compensation for such services is a valid one, and a recovery can be had thereunder.

The point as to the legality of contract for extra compensation beyond the statutory witness fee, for the mere giving of expert testimony, is not raised. It is possible the Dixon decision has definitely settled that question. As an expert always renders some service beyond that of merely testifying, in the way of counseling with attorneys, if not otherwise, the probability is that the effect of the Dixon decision is nullified. In any event, we are now protected against those who would accept the benefit of our services and then repudiate the contract under which they are rendered, provided only the contract be for more than the naked testimony.

DR. GIVEN, Cleveland, Ohio.—It strikes me that the fault in this matter lies primarily with the physician, next with the court, and last with the jury: with the physician, because we are too anxious to express ourselves before we are called on the witness-stand; next because we answer double questions on the witness-stand, and last because the judge is not a competent authority with regard to medical evidence or with regard to a medical statement, and he has not the ability to interpret the evidence from a medical witness to the jury. It seems to me that this might be overcome by an associate judge in all cases where expert testimony is required.

DR. HAROLD N. MOYER, Chicago.—This is a perennial topic; there were published in the medical press of the United States, during 1898, 236 articles on this subject alone. The medical man is nothing of late years, unless he is a reformer. Is it the business of the medical profession to reform the world? Human institutions are generally imperfect. Would it not be possible to frame an indictment against almost any institution, which would be quite as strong as the one against medical expert testimony, that was read by Dr. Herdman. Medical expert testimony is only a branch of other expert testimony, and with other expert testimony, as for instance with that as to the value of real estate in condemnation suits, is simply a double-distilled essence of honesty.

I doubt the strength of the indictment against the expert system. There are some leading cases in which there is a great conflict of medical testimony. I am occasionally in the courts in my city and I am familiar with the men who give testimony, and nine-tenths of that given there by medical men is trustworthy, and makes toward justice. I wish to go on record as distinctly saying that members of the medical profession in the main are all right on this question of medical testimony, and that at least 90 per cent. of this testimony is an aid to the courts. This is not to say that the present methods of introducing are perfect, but they are not so bad as have been described, nor will proposed changes secure a condition of affairs beyond criticism.

DR. F. SAVARY PEARCE, Philadelphia.—It occurs to me that the teaching of medical jurisprudence to all law students, such as Dr. Herdman teaches in his university, would be a step in the right direction. We need better co-operation of the legal fraternity in this matter.

DR. A. E. STERNE, Indianapolis, Ind.—The question of expert testimony by physicians is one we have frequently discussed in this Section, and my views have been but slightly changed in relation to the subject during the course of years. It seems to me to be a mistake to take any other than an open scientific standpoint on this matter. It is certainly no disgrace, and should be an honor to be a medical expert in the proper sense and meaning of the term. If expert testimony by physicians has fallen into disrepute—as it certainly has—it is the fault of the methods of the law much more than of the expert. As things are to-day, when we are the victims of a practice which allows every liberty to the lawyer, and few, if any, to the witness, it will prove difficult indeed to raise the status of the medical expert. His testimony can readily be garbled in the arguments of the advocates, and there is no possible opportunity to vindicate either the truth of that testimony or the fair and open position of the expert before the court. It happens often enough also that the honor of disinterestedness of the expert are questioned, and there is no opportunity to deny or affirm, when the man is assailed. Unfortunately, the discredit of medical expert testimony is partly—I had almost said, largely—due to certain members of our profession, who act as experts with scanty right to do so. It is equally unfortunate that most of them use entirely too technical expressions to a jury composed of men quite unversed in the questions at issue. As a matter of fact, the position of the expert is not nearly so bad as is commonly believed, for we must not judge from the few cases which become celebrated through the press and forget the many about which nothing is said. My practice is, before taking the stand, to name and receive my fee, and then, when I am asked whether I am to be paid for my testimony, I can say that I have already received my fee and it is a matter of indifference to me how the suit turns out. I never take a contingent fee.

INFANTILE DISEASES FROM THE STANDPOINT OF BIOLOGY.*

BY JOS. CLEMENTS, M.D.

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Professor Von Virchow, in "the Huxley Lecture" delivered before the British Medical Association, Oct. 3, 1898, gave utterance to the following statement, pregnant with meaning to the thoughtful physician: " . . . An indispensable foundation for practical work, and particularly for medical practice, is to construct an objective picture of the nature of vital processes." And further: "The local action of cells must determine the practice of physicians and surgeons." This suggests the true ground to occupy in the battle we are called to wage with disease. And before attempting to construct this picture, permit me to fortify and strengthen the dynamics of Virchow's suggestion by a statement, equally pregnant, made by Prof. Lionel S. Beale. In his latest work, "Vitality," published less than a year ago, he says: "Healing processes can take place only through the agency of the living matter." That is, the bioplasm. If this be so, then biology is the foundation of therapeutics. Previous to this, two years ago, Professor Beale had said: "Every pathologic change is consequent upon a vital action." Again, if this is so, biology is the foundation of pathology. This, then, is in illustration and support of the title of my paper.

That we may understand the nature of disease, that we may comprehend its phenomena and know the mysteries of its cause, we must look within; we must enter the vital domain, study the normal activities of life and see the workings of the life processes in their inception and progress. The wonderful fertility of modern ingenuity, in the invention of microscopic and other aids, enables us to do this. The use of these "instruments of precision," in the hands of skilled and careful bacteriologists, makes us absolutely certain of the presence and active agency of the bacteria in the morbid conditions prevailing in disease. But there is also needed the use of that grander and more important instrument, the trained mind of the biologist, the physician himself, to determine the true status and place and part played by the cause, in disease.

Where is the site, locality, ground on which is enacted the drama of disease? Part of it is on the surface of the skin, in the irruption of smallpox and measles, of which we have seen so much recently. Part of it is in the lungs, and in the glands of the lymphatics, where the tubercle multiplies in phthisis, and where lives and thrives the bacillus tuberculosis. Part of it, again, is in the intestinal tube, as in Asiatic cholera, and where,

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too, live and thrive the bacilli. Macroscopically and microscopically we know this, but we must bring into play our own finer instrument, the logical mind, back of our seeing, or we shall find ourselves "at sea" in what we see, and in what we think we know we shall surely be in error.

To make broad and firm the platform on which we stand in our survey of this interesting part of medical science, I wish to introduce a few salient points as landmarks.

The indefatigable spirit of modern inquiry and research has resulted in establishing that vitality is the basis of all life and growth—vitality, not chemistry. The latter has its own important part to play, but back of the chemic phenomenon, and making use of it, is the vital force activity, of which the cell is the unit (?) and depository. And here, in the infinitesimally small point of bioplasm, or living matter, so minute that a human brain has been estimated to contain three hundred millions of them, five millions of which die and are replaced by new ones each day, there is in dynamo the potency of life. The living, vitalizing force animating each cell is the bioplasm, which Beale thinks is not more than 1-100,000 of an inch in diameter, 90 per cent. of this being water, and all vital power is associated with this living matter.

The lowest exhibition of vital activity is in multiplication and growth. The manifestation of vitality is different in the various cells, but all is subservient to one general end or design. The death of the bioplasm is going on constantly from the inception of life, and its powers are transmitted and transferred to other living matter which comes into existence at the moment of the parent bioplasm's death.

The new bioplasm or living matter was evolved out of the nutrient substance just taken up and into the body of the parent bioplasm, all its powers being at the instant of death transferred to, and now possessed by, the new living matter just entering on its brief career of life. The nutrient substance is in solution, circulating in the interstitial fluids of the tissues, and is taken up by the living matter with which it comes in contact. The maintenance of the normal condition of the various organs and tissues depends on the free circulation of these interstitial fluids, and the taking up and vitalization of the nutrient matters within them.

The vital phenomena then, occurring in the passing of the nutrient matter into the substance of the living matter, and the transfer of life, with all its powers, of the bioplasm now to "die," part of itself being converted into formed tissue of a kind determined by its own nature, or the powers it inherently possessed—this is the essential phenomena of life. Here we enter the arena of those vital and chemic activities which constitute life and growth, and here, too, we stand on the ground and in the presence of the equally vital phenomena we call disease and its cure, or return to health.

This wonderful vital activity represents the constant and incessant life processes going on in the human body: from death to life, issuing in formation, differentiation, growth, with the functions catabolic and anabolic associated.

Think a moment of the process of life as it goes on in the fetal organization. The hand evolves from a particle of bioplasm. The palm does not develop first, then thumb, then fingers, one after the other, but altogether, simultaneously. The bones are not completed first, then periosteum to cover them, then muscles, fascia, skin, but all and every part together. So of the whole body. A single germ, a bioplasmic seed, having in itself the power and potency of life—and life in this various and multitudinous form—an infinitesimal point of living matter, which has in itself that unlimited power, in the exercise of which it selects and attracts from the elements which constitute the cosmos, of which all things are a part, and taking them up singly or combined as needed, and utilizing the chemic and other forces in constant association with them, it weaves and forms the various tissues and parts: endowing this cell with power for a single and simple purpose to accomplish, and another with a multiform and intricate and complicated design to fulfil, and all harmoniously working, this in structure issuing in formation of bone, that of connective tissue, still another of nerve substance and fiber, others of cellular tissue, epithelium, etc., until from the particle and sperm and ovum, there develops gracefully and symmetrically, with infinite design and masterly accomplishment, the bounding perfect organism.

This ceaseless vital activity is, as we have seen, multifarious and complicated. For the perfect fulfilment of these, which are necessary to, and result in, health and normality, how much is needed and involved. Normal, perfect bioplasm in solution, 90 per cent. water, and provision for an almost infinite number, and, as a matter of vital importance, an absolutely *unbroken succession of these throughout the entire life of the organism.* Interference here, a break in this succession, is irremediable. A crawfish may reproduce its claw after amputation (Beale), but not so man, if he lose a finger, an eye, a gland or any part. Break the succession of the bioplasmic nucleus and it is broken forever, for that grade; a lower grade of formed tissue, cicatricial, is the nearest approach to what was normal there, but lost, that is ever produced. (As a side remark, permit me to suggest: Do not try to locate a bullet in the brain by the use of a probe; use the X-ray; you will surely increase the destruction of vital tissue, and make wider the irreparable breach with its resulting paralyses, or epilepsy, etc. A wound involving merely formed tissue may be completely remedied by production of tissue of the same grade, but not so if vital tissue or bioplasm is destroyed. As we said, a break or interference in the bioplasmic nucleus is a breach irremediable and eternal.) Besides normal bioplasm in unbroken succession, there must be free and unimpeded circulation in the interstices of the tissue substance of fluids: normal nerve action, probably dependent on changes in the nerve-fiber, brought about by the vital activity of the bioplasm—all this, and much more, is essential to that unique condition we term health and normality. The slightest "hitch" in this train of conditions and events, the least interference with the operation of these invariable laws of life, means ill-health, and if prolonged, disease. With this very imperfect "objective picture of the nature of the vital processes," we can more readily see and understand both the nature and cause of disease. This puts it where it belongs, within, in the cells, in the bioplasm of the cells.

In making use of this in elucidation of the problem of infantile diseases, permit me to do it this way: I sometimes have curiosity to look over the city record of deaths for the week, and find it something like this: Name, ——, age, 31; cause of death, tuberculosis. Name, infant, age 2 days; cause of death, inanition. Farther on down the list I read again: Name, infant, age 12 hours: cause of death, inanition. Reflecting, I say to myself, "inanition." What is the nature of

phenomena? Where its field of operation? I construct an "objective picture of the vital processes," as suggested by Virchow, and I see them in active operation, as I think they are. The natural elements of which all things consist, in their various combinations with the affinity of the inferior for the chief class, are in play. I see the simple element phosphorus combining with the greater, central one, oxygen. I watch the "combination" which takes place. I perceive the heat that is generated: flashes of electric force, and currents of electric and other power start into activity within the nucleus of the tissue cells, and they move, they throb, they divide, they multiply, sending out prolongations and extensions; they weave and form tissue of various kinds. The bioplasmic nucleus dies, passing on its life and powers to its successor, the part of itself not converted into formed tissue being taken up by the oxygen carriers, to be eliminated as waste—all this I see and much more.

But while still observing, the vital process flags, slacks down; electric flashes die out; currents of vital force move sluggishly and still more slowly. The life of the dying bioplasm goes out without successor to take up its powers and to carry on its activities, and in how brief a period: "twelve hours;" "two days," the record said. The "objective picture" passes out of view, and naught remains but a motionless, lifeless mass of heterogeneous matter, and there is written over the untimely "abortion," if we may so call it, as explanatory of the unnatural phenomena, "inanition."

Laying aside the microscope and looking macroscopically, we ask, what is the philosophy of the phenomenon under consideration? A panorama of happenings rushes past, but the most vivid impression left on the mind is this: When the babe emerged into life, the vital processes enacted *in utero* began adjusting themselves to the new environments, during which process, infinitely delicate as it must be, did the nurse or the doctor carelessly and unnecessarily expose the surface of the body with its delicate covering of skin, having myriads of passages for egress and ingress, and its complicated nerve arrangements providing for the regulation of the heat and electric and nerve and other chemic forces being generated in the interior of those vitally active cells? What a frightful derangement, what a tremendous revulsion of those vital processes might almost instantly result, simply from such a chilling of the surface as we have supposed, in a babe whose vital endowments were but feeble to begin with. And if the vital processes have their initiation in oxidation, as we know they do, and if deficient oxidation results in lowered vitality, and consequent imperfect elaborations of tissue, as seen in the tubercle in phthisis and the enlarged glands of struma, who can estimate the effect of those antenatal and postnatal influences and happenings which we have merely hinted at, in the production of that soil or diathesis, without which, notwithstanding the fact of the bacillus, or other bacteria, we can not have some diseases?

Surveying the field of pathologic phenomena from the standpoint of biology, we see that disease is vital phenomena equally with that of normality and health. The recognition of this fact will go a long way toward clarifying our ideas in regard to the nature and causes of disease. In my work at the college dispensary I see many infants and children. The diseases prevailing in the colored race are of a strumous nature, largely. Only recently I opened an abscess in such a child; the quantity of pus was enormous. Now, what is scrofula, viewed biologically? Much the same as tuberculosis. This is accepted generally by the profession to-day. Here a question arises: Why, then, are no tubercles found in the strumous phase of the disease? We say, "I don't know," but how will this do as a hypothesis in explanation?

In our landmarks, we said, the lowest exhibition of vital activity is in multiplication and growth. The higher manifestation of this is in formation of the more complicated and elaborated tissue, and in transference of powers of succession and design and elaboration of these to completion. There may be interference with the biologic processes affecting and preventing the elaboration of the higher and more complicated structures, which may not interfere with the exhibition of vitality as seen in simple multiplication of cells. There may even be stimulation and increase of power and activity in the multiplication of pus corpuscles, as in abscess formation. The bioplasm may live too fast under the stimulus of disease conditions, as well as too slow under abnormal yet different environment. In the glandular enlargement of struma we have elaboration of tissue of a lower grade than tubercle, perhaps, at least a different grade and probably less enduring.

This opens up a wide field of thought and inquiry. Certain it is that disease, in its nature and phenomena, in its cause and process, arises and is enacted within. Some phases of disease we specify as "cellular." Is not all disease cellular in that its phenomena is enacted in the cells and radiates from them? To be sure the cause of disease may be from without. The philosophy of the cause in disease is very interesting as a study. There are many "causes," but perhaps two general classes, one from without—that is impurity, dirt, irritation, bacteria—the other from within, in the *materies morbi*, not from without but generated within: toxin, virus, the product of pathologic vital activity, which is the result of the "cause," whether that enter from without or arises *de novo* and within.

The cause of disease, whatever it be, does not always determine the nature of the complaint that follows. Two persons are exposed to the damp air, sitting in a draft, one will have an attack of influenza, the other will groan with pains of rheumatism. The disease following the cause is determined by the action, the response of the cells, in their vital phenomena, to the irritant or cause. Diathesis, soil heredity, comes in here and plays an active part. If one of the two persons supposedly exposed to disease-producing environments were an Englishman of the well-to-do class, whose ancestors were high livers, his rheumatism would be of the gouty type, in all probability.

The cause of disease is a fruitful topic of investigation and reflection. I think bacteriology is carrying us a little too far, and the use of the microscope, important and essential as it is, will mislead us if we neglect the constant use of our own "instrument of precision" in these investigations. Virchow advocated the cardinal importance of distinguishing between the cause of disease and its essential nature, maintaining that bacteria are never more than the cause, the disease itself depending on the behavior of the organs and tissues themselves with which the bacteria or their metabolic products come in contact. And here permit me to say that while I hesitate not to accept the statement, the dicta, of this eminent man, this prince of pathologists, with the toil and research of half a century as his record, yet I must confess I am hardly prepared to accept the legitimacy of these metabolic products, as the progeny of the bacteria.

I have more than once expressed my doubt of the soundness of the theory, that these toxins, capable of acting chemically on the albumin of the blood-corpuscles, are the product of an animal so low down in the scale of physiologic being as a bacillus. Could a physiology so simple elaborate so complicated a product as the virus or toxin is found to be?

I think we may accept the dicta that disease is abnormal vital activity, and the cause may be from without or may independently arise within; that the cause does not necessarily determine the nature of the disease, but the response of the vital activities to the contact relation of the irritant or cause, whatever it be. The same principle is operative in therapeutics. Drugs and medicines do not cure disease. There is no active principle in drugs; the active principle is in the vital force energies of the organs and tissues, strictly speaking, in the bioplasm of the tissue cells. The drug is necessary; it is the "cause" of the vital therapeutic and restorative process; but the return to health, the healing process, the therapeutic phenomena arises from within, in the bioplasm of the cells, set into vital therapeutic activity, it may be, by the contact relation of the medicine. It would require another paper, several of them, in fact, to cover the ground embraced in the title.

915 West Seventeenth Street.

MAY NOT GONORRHEAL VULVOVAGINITIS BE ACQUIRED BY CHILDREN INDIRECTLY?*

BY CHARLES O'DONOVAN, M.D.

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Bacteriologists who have worked with the gonococcus of Neisser insist that it is an organism that is very refractory to cultivation outside of the living body, and that when it is removed from its usual habitat it dies very promptly. Immersion of gonorrheal pus in water, drying of the pus, or even simple exposure to air is said by some authorities to be sufficient to destroy the life of the gonococcus. Accepting the theory that the infectious nature of the discharge depends entirely on the specific organism, it would appear from this that it would be next to impossible to convey gonorrhea from one person to another in any way except by direct contact of surfaces subject to its invasion. This opinion might easily cause very serious complications from a medicolegal standpoint, and lead to the conviction of innocent parties accused of criminal procedure. The teaching of the laboratory in this matter must be tested by practical experience, in which modifying circumstances frequently present themselves. It may be readily recalled, by reading of books not very old, how the vaginitis of young girls and female children occasioned much discussion until the discovery of Neisser settled once for all, the identity of this disease with ordinary gonorrhea, in the great majority of cases. The microscope now renders the diagnosis easy, enabling one to appreciate promptly the seriousness of the disease, and to use the proper remedies. At first this made matters very satisfactory; the cases were accepted as specific, the contagion having been conveyed in an innocent manner to the children through dirty linen or a soiled basin that had in some way become contaminated. It was disagreeable to think that the disease could be so easily spread, but it was easier than to believe that the great number of children with vulvovaginitis had been subjected to attempted coitus. This happy state of things has been destroyed by the bacteriologist, who announces from the laboratory that it is almost impossible to make the gonococcus live outside of its usual habitat.

We can not deny the gonorrheal nature of the prevailing infantile vaginitis, notwithstanding the pseudo-gonococcus which is offered as a loophole, for every case that has been examined at our dispensary has shown the presence of the Neisser organism, and has, in addition, presented all the other symptoms by which gonorrhea is recognized. Our material is drawn almost entirely from the negro population, among whom gonorrhea is extremely prevalent, and the likelihood of contagion is great. But some of our patients are so young, children of 2 or 3 years, that it seems impossible to accept direct contact as the means of infection. It is clearly a difficult matter to trace the mode of spreading the disease under such circumstances, but when the disorder attacks several girls in a family, whose father is known to have gonorrhea, and the history of a common use of wash-rags and towels can be obtained, with the denial by the father of any improper contact, it seems plausible, even allowing for the unreliability of such testimony, to credit the disease to an indirect rather than to a direct infection.

Observation of our cases after admission to the wards of the hospital should help very materially in determining the methods of probable infection. We notice that the children play together, as in any nursery, with the greatest carelessness and freedom from restraint, constantly handling the same objects, whether time-worn toys or the furniture of the room, in a way that must necessarily transfer from the hands of one to those of others any filth that might adhere to them. This has appeared so likely to happen that we have ordered that the girls who suffer from vulvovaginitis shall be compelled to wear napkins that must be frequently changed and properly disinfected; when they must be removed for defecation or urination, it is the duty of the nurse to see that they are properly readjusted, and in this way we hope to reduce to a minimum the likelihood of the child's fingers becoming contaminated and so spreading the contagion. So far we have never seen any evidence of it, but from the gregarious habits of the children in the ward, we are in constant apprehension.

These cases are extremely refractory to treat. When they first come into the ward they make very rapid improvement, up to a certain point, but the slight discharge that persists still contains quantities of gonococci. Simple cleanliness, with frequent washing of the parts, brings about the decrease of discharge, but with no effect on its virulence; when it becomes evident that stronger treatment is required we use a solution of hydrogen peroxid diluted one-third or one-half, and after this cleansing agent a solution of bichlorid of mercury varying from 1 to 5000 up to 1 to 2000. Though the disease persists, the children seem to suffer little inconvenience after the acute stage has passed. Their comfort is perfect, and the abnormal congestion of the parts disappears almost entirely, but the pus gathers persistently about the labia and around the meatus; the vagina seems but little affected. With this we have noticed such irritation of the parts as induces the child often to rub or scratch about the vulva, leading to almost certain contamination of the fingers or nails, whence, we believe, the infection is carried indirectly, by means of toys or otherwise, to the vulva of another child. Or in the families of uncleanly individuals, we consider it quite pos-

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ble for the infection to follow the use of towels, or om an uninfected child wearing the clothes of one ffering from gonorrhea.

40 East Read St.

THE LA GRIPPE EXANTHEMATA.*

BY HARRIET E. GARRISON, M.D.

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During the past winter the locality in which the whole f my life has been spent has been struggling with the eighty problem of whether we were in the midst of pidemics of measles and scarlet fever or whether the anthems were different manifestations of the same isease and due to the germs of la grippe. The question as of serious interest, as the children of the affected amilies were excluded from the schools and the business nterests of the town were suffering. It was also causing great deal of hardship in the surrounding community, s a condensing milk company has a factory located here, nd as no milk that has been handled by a person com- g in contact with a contagious disease is received at he factory, therefore it is no small inconvenience for a airyman who supplies milk to it to have even measles n his family. The only cases of genuine measles which saw last winter were in the family of a dairyman six miles from town, and it became necessary for me to nspect the arrangements for milking and caring for the ilk while it was being cooled and made ready for the actory, that I might certify to the business manager hat all his sanitary arrangements were being carried ut, and that the cases of measles were entirely isolated rom the dairy and dairymen; for without the attending hysician's certificate the milk from fifty cows would ot be received at the factory.

I had an opportunity of studying the exanthem be- fore it became epidemic. Nov. 28, 1898, at 2:00 a. m., I was called to see Ruth R., aged 11 months, who was taken suddenly ill with nausea and vomiting after hav- ing been unusually well during the preceding day and early evening. She was very restless and irritable, her tongue covered with a thin white fur, fauces slightly reddened but the redness was diffuse and more erysip- elatous, with little swelling and no ulcers nor exudate; pulse 120, temperature 102 F. As she frequently had attacks of indigestion and was now cutting her canine and first molar teeth, and was the first baby, I was ac- customed to midnight calls, but this time the gums showed no sign of irritation, and the bowels no indica- tion of indigestion. As the mother had suffered with a severe attack of la grippe a few weeks before, and Ruth's symptoms pointed in that direction, I gave some of my usual fever mixture for la grippe and she soon became more quiet. The next morning the pulse and temper- ature were nearly normal and the tongue coating was disappearing, but she was having some coryza. Giving the child a tonic to be taken for a few days, to prevent relapse, and a nasal antiseptic spray, I dismissed the case. The next day, nearly thirty-six hours from the time the child was taken with nausea, I was recalled to see her. Although apparently otherwise well, she was covered from head to feet with the eruption of measles —large, flat, slightly elevated spots on an inflamed base. Some of the spots had coalesced, making a continuous red, raised surface over the greater part of the face, but on other parts and more over the trunk and limbs white skin could be seen between the inflamed bases of the eruption; as the child was a pure blond the contrast be- tween the white smooth surface of the epidermis and the inflamed red blotches was very noticeable. Despite her apparent well-being there was a slight increase of pulse and temperature: pulse 90, temperature 100F., bowels regular, tongue clean. I found the bean-like glandular enlargements characteristic of rubella behind *both* ears, which is unusual—one is the general rule, and this fre- quently so small it is hard to find and easily overlooked.

The epidemic of la grippe and the exanthems began the latter part of December. I saw my next patient January 3. The parents supposed the girl to be ill with scarlet fever. She had taken her New Year's dinner at my house, and I had observed that she did not enjoy it as much as usual, but she enjoyed an after-dinner romp with the other children. On the 2d she complained of malaise and stayed in bed all day, and toward evening she was worse, with fever and vomiting. As they lived in the country, I was not called until the morning of the 3d, when she was covered with a scarlet, pin-point erup- tion from head to toes, but on the feet and legs the spots were not so near together as on the face and body, there being intervals of healthy skin between. It looked like a plain case of scarlet fever, but the tongue showed no redness even at the tip, and was covered with a moist, white fur. There was some swelling and redness of the fauces, but no exudate. She complained of some sore- ness in swallowing, but there was no enlargement of the glands, either submaxillary or post-cervical. Even the bean-like swelling behind the ear was scarcely to be felt after the most careful examination, made after I decided from the pulse and temperature, that it was not a case of scarlet fever. While noting the dusky, red appearance of the face, I expected to find a pulse of from 110 to 120, but found one of 84, with a temperature of 99.75 F. She complained of headache, especially in the occipital region, and severe pain through the spine and limbs, but had rested moderately well for the night. The mother was not feeling well, having the same posterior headache and aching through the limbs as did the daughter, but was caring for her household. Her forehead looked red- spotted, but the spots were not raised above the surface. Two children, younger than Anna, had coryza and an eruption a few days later, but neither was very sick, although the eruption in both cases was preceded by malaise and, just before it made its appearance, with nausea and vomiting. I kept all the children in bed until desquamation, which was very free, was complete. The mother and three children had the eruption, the father a severe attack of la grippe without eruption, while the other members of the family, a son, aged 19, who had never had scarlet fever, and a man over 70 years, escaped illness.

The subsequent history of the family is interesting. March 1, they moved to a surburban home and went into a nearly new house. April 1, Anna, who had the eruption in the severest form, developed serious, chloro-anemic heart symptoms. April 8, the son, who had previously escaped the eruption, was taken sick with symptoms of la grippe. After these symptoms abated he broke out with an eruption resembling measles, which he had pre- viously had; I did not see him after the eruption ap- peared, therefore could not confirm the diagnosis of rubella. In a few days the other three children had the eruption, but a boy of 6 years was not sick enough to remain home from school. None of the three were con- fined to the house. Since this attack they have all been perfectly hearty.

From the last of December to the first of April the

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epidemic of la grippe was at its height, and also the cutaneous eruptions.

There were three varieties of the eruption, the rubeola form, as illustrated by Ruth R., the scarlatina form, illustrated by Anna B., and still another, papilla vesicularis. The papillæ were not numerous, were of the color of the epidermis, surmounted by a pearl vesicle the size of a pin-head, which, on being ruptured, emitted a clear water. This eruption was accompanied by intense pruritis. One of my genuine measles patients had this form of eruption after a severe attack of la grippe, which came on a month after the attack of measles. When the mother presented the case, a boy of 13, she remarked on the intense itching and, as it was confined to the hands, especially between the fingers, she said: "I think Robbie has had enough this winter with measles and the grip, and now I wonder if he has the itch."

My cases of la grippe with high temperature were not followed by cutaneous eruptions or other sequelæ. Several of my little patients had an axillary temperature of 105 F., and none of these had any rash, although other children of the same family with a lower temperature had severe exanthems. One instance in particular—a boy aged 8 years—had a temperature of 104 F., with nervous twitching and semicoma enough to make me fear he had meningitis. He never developed any eruption, while his mother, with a temperature of 101 F., showed red spots on the forehead, and the baby, aged 8 months, with a temperature of 102 F., came out freely on her fifth day of sickness with rubella. Whether this freedom is due to the high temperature destroying the toxins, or to the freedom with which I gave acetanilid at the beginning of an attack of la grippe with high temperature, is a point I have not yet decided. I regard acetanilid as much a specific for la grippe as quinin is for malaria; and suppose this action due to its strong germicidal powers.

I think it is not contagious, as the children who were closely confined at home were sure to have the exanthem, with sometimes marked la grippe symptoms. Neither were there any serious sequelæ except in the cases with severe coryza, and then abscesses occasionally developed somewhere along the nasal route, or in the middle ear.

My treatment for the exanthems has been principally baths. I years ago learned that nothing was so good for rubella as a warm saline bath. I have seen severe cases with delirium yield to a half hour's immersion in warm water, and after the sleep which followed the bath the patients were as bright and active as though they had not been sick. If there is fever, I give acetanilid and sodium bicarbonate combined, to which is added a little mild hydrargyrum chloridum, if constipated, and Dover's powder, if very restless. For the coryza, antiseptic spray, Seiler's antiseptic tablets, or powder dissolved in water, and for the middle ear a warm 2 per cent. hydrastis solution in glycerin distilled into the ear as soon as the first pain is felt; if suppuration takes place, I cleanse with an antiseptic douche.

I grouped all the exanthems together under the head of German measles, until I was called to Lorna D., aged 16 years. She had been complaining for several days, but did not seem sick enough to need a physician. After she developed the eruption some of her schoolmates called on her and reported that she had the measles. The next day came the request that the other two children, a boy of 14 and a girl of 12 years, be kept home from school, and then I was called to give a diagnosis. She had the pathognomonic symptoms of rubella. I told her that as the school authorities did not like the name of measles, we would not call it German measles, but would, as she was in the school classics, call it la grippe exanthemata, as the rash was but an accompaniment of the mild attack of la grippe which she had been having, as shown by the history of the case.

DISCUSSION.

DR. C. G. SLAGLE, Minneapolis, Minn.—I have been puzzling a little over the title of the paper just presented. I did not know that la grippe was an exanthematous disease, and I think it would have been more accurate if the title had been "A La Grippe Exanthem." I would like to know whether Dr. Garrison considered the exanthem a part of the la grippe or a sequela.

DR. H. E. GARRISON—I think the exanthem was simply a sequela of the grip.

DR. SLAGLE—I think you have a genuine epidemic of German measles prevailing along with the grip. I would like to know whether any of these children had the German measles before.

DR. GARRISON—I have had these exanthematous eruptions recur after six or eight weeks, but the recurrence was always preceded by the symptoms of la grippe.

DR. SLAGLE—The diagnosis was probably more or less obscured by the use of acetanilid.

DR. I. N. LOVE, St. Louis, Mo.—I consider the title of this paper right. Our observations in St. Louis would seem to justify the conclusion that the majority of the infectious diseases are sometimes associated with rashes. We have them in cerebrospinal meningitis and sometimes in whooping-cough. I believe there is some disturbing effect on the nerve-centers, produced by the toxin of this infectious disease, expressed on the skin in the form of the rash. It is not always present, but is in many cases of la grippe. It is not improbable, however, that some of the cases observed by the reader of this paper represented a combination of German measles and la grippe. We had just such an epidemic in St. Louis, and there were all sorts of complications, and there were suppurative disturbances of the mucous membrane of the nose and throat, leading many physicians to make a diagnosis of diphtheria. I still insist that a case of diphtheria is not diphtheria unless there is the familiar clinical picture of the disease. In an epidemic of la grippe in an asylum, I saw an enormous number of cases, complicated with German measles. In some instances the combined diseases were so severe as to produce death. Some of the cases were diagnosed as plain measles. The bacteriologic investigation showed the grip bacillus in the secretions from many of the cases of rubella. We have a definite entity in the bacillus of Pfeiffer as the cause of la grippe. Our great error in the past has been that we have not recognized fully that la grippe is an infectious disease which is peculiarly liable to attack children, and which has a definite course to run. Its chief danger is to be found in the complications, and their neglect because the physician fails to appreciate the danger.

DR. JOSEPH CLEMENTS, Kansas City, Mo.—We look upon disease largely as an entity, as a something that takes hold of a person, and that must be battled with and overcome. This is a wrong idea. We do not think of health as an entity, as something to be coddled and cared for. The idea misleads us. Our nomenclature gives us the name of the disease, with its symptoms and essential features, and while this is useful, it certainly misleads us, as has been shown in the papers and discussion presented today. When we go to the very beginning of disease, and appreciate the fact that disease consists of vital phenomena equally with health, then we can adopt a nomenclature which will not be misleading either to ourselves or the laity.

DR. H. E. GARRISON, Dixon, Ill.—I simply wish to say to Dr. Slagle, with reference to the production of the rashes by the acetanilid, that in the cases in which this drug was given in largest doses, no rash appeared. In one boy, who had a temperature of 104 F., I gave 1 gr. every two hours until free perspiration was excited. The next morning the mother telephoned that the child was "a hundred per cent. better," and I did not have to make any more calls and the child had no rash. I have had quite a number of similar cases in which, although I gave acetanilid freely, there were no rashes observed as a result of this medication.

THE NUTRITIVE FUNCTION OF THE BRONCHIAL ARTERIES IN GROWTH. DISEASE AND REPAIR OF PULMONARY TISSUE.

BY D. LICHTY M.D.

ROCKFORD, ILL.

For a long time the important function of respiration has engaged the close study of physiologists, and the intricate exchange of gases in the pulmonic alveoli is beautifully if not accurately described. Here permit me to briefly but emphatically assert that the physiologic interchange of gases in the pulmonic tissues, by which this form of metabolism is maintained, is a process as directly under the control of vital forces as is that of the blood-current in its interminable circuit.[1] The dialytic laws of gases evolved in the laboratory should not be employed in the study of the interchange of gases in *vital* respiration.

The intervening basement membrane forming the ceci of the bronchial termini is a recognized histologic tissue continuous and impermeable unless excited to functionation by its proper vital stimulus.

The ciliated epithelia lining its mucous, and the endangial membrane lining its distal, side are on each side of this histologic division, elements capable of functionating to that high degree that they may select and transmit oxygen from the alveolar side, and from the endangial[2] emit detritic carbon dioxid by an alchemy which we must confess we can not demonstrate physically or explain literally, but that still exists as a potent *vital,* and not a *physical* process.

Of the origin and distribution of the bronchial arteries nothing new can be offered. "The bronchial arteries are the *nutrient* vessels of the lungs and vary in number, size and origin: that of the right side, from the first aortic intercostal, or by a common trunk with the left bronchial from the front of the thoracic aorta. Those of the left side, usually two in number, arise from the thoracic aorta, one a little lower than the other. Each vessel is directed to the back part of the corresponding bronchus, along which it runs," dividing and subdividing with a somewhat regular dichotomy upon the bronchial tube supplying them, the cellular tissue of the lungs, the bronchial glands and esophagus.[3] The bronchial arteries in their distribution follow the pulmonary vein and artery as their vasa-vasorum, to the pulmonary artery, even to the one-twenty-fourth of an inch in diameter.[4] Those supplying the bronchial tubes form a capillary plexus, first in the outer wall and muscular coat, from which branches are given off, to form a second plexus in the mucous coat; these capillaries form the densest plexus known in the human body;[5] not excepting the pia of the cortex cerebri, and nowhere is inflammatory action so easily started as beneath or within the pleura, where lie these dense branches of the capillaries of the bronchial artery.

The diameters of the intercapillary spaces are often less than the diameter of the vessels themselves;[2] this plexus is separate from that formed by the pulmonary artery over the infundibula, and has a function in common with the capillaries of any area of the systemic circulatory apparatus, that of nutrition; some of its branches probably inosculate with the capillaries originating the pulmonary vein, carrying new oxygenated blood into and through the left cylinders into the current of the general or systemic nutritive circuit. Everywhere in its distribution through the pulmonary area it has the common function of all the vessels of the systemic circuit and is as distinctively separate from affiliation with the pulmonary aerating circulation, as is that of the plantar or occipital area.[6]

The pulmonary artery—carrying venous blood and passing into and around the acini—has, prior to reaching this tissue, given up all its nutritive pabulum to the sustenance of the tissue it met in its rounds, prior to arriving at the power-house of the right heart, its metabolic forces having been totally exhausted; it might have its reticulæ multiplied many fold and yet it could not impart one iota of nutrition to impaired, injured or destroyed lung tissue.

It is the bronchial artery circulating in the intercellular spaces of the lungs, apart from the vessels involved in the pneumonic process, that prevents a sweeping destruction of the lung tissue when injured or diseased; the mucous membrane of the infundibula, in communication with tidal air, furnishes a favorable nidus for germ culture in which pneumococcus and influenza bacilli, for acute disease, and tubercule bacilli for chronic, grow in a culture-medium supplied by the functional capillaries of the lung.[7]

Not only is *nutrition* maintained through the bronchial artery, but the excess of pneumic acid, necessary to the liberation of carbon dioxid from the functional circuit, is kept up by it, which laboratory experiments also have proved is fatal to the propagation of the pneumococcus especially, and probably to that of other toxic organisms.

Another recognition that should be given the bronchial artery is that the integrity of the entire pulmonary structure is maintained during intrauterine life by it; that the functional circuit is dormant until the emergence of the child into its newer existence; that the life of the parts, to their smallest histologic elements, is dependent on the distribution of this artery, nerves, lymphatics and intercellular fiber.

When atelectasis pulmonum takes place, either induced by pathologic or experimental methods, circulation for that area, whether a lobule, a lobe or a lung, there, for that time, can be no uses for the circuit of the pulmonary vein and pulmonary artery, and should the bronchial artery become occluded by a thrombus or a ligature, a destructive and localy fatal necrobiosis would soon be anticipated—a gangrene of the lung or, in a young subject, an atrophy.

The so-called obstruction in pneumonia, to respiration and circulation, with its attendant cyanosis and dyspnea due to the alleged exudative plugging of the bronchi and alveoli, must have some other explanation, as the impeded respiration and cyanosis disappear by lysis, while it is not possible that the exudate could be so suddenly removed; absorption of exudative matter, whether interstitial or pleuritic, can be affected only through the activity and release of the capillaries of the systemic circulation of which the bronchial artery forms a part.[7]

In the experiments in induced atelectasis, where an entire lung has been occluded either by ligature or compression, long periods can elapse before necroses ensue, so long as the bronchial artery or its branches remain patulous.[8]

The pulmonary pleura is dependent on the bronchial artery for its nutritive supply, though the functional circuit forms as dense a plexus on its proximal side as the bronchial artery on its distal; it is the anatomic and physiologic distribution and activity of the bronchial artery that makes possible the many evidences of repaired tuberculosis of the lung, cited by Osler of Baltimore,

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Bollinger of Munich, Boudet of Paris, Heitler of Vienna, Flint of New York, and Fowler of London, with numerous other observers who can confirm their observations.[9] This is a fact which should have great publicity, to both awaken and quicken hope and dispel the pall which falls over one in whom an early but kindly diagnosis has been made for self and friends; for with no malady is the error more prevalent than with pulmonary tuberculosis, that it is incurable, whereas the contrary prevails.

Phthisio-therapeusis is to-day held in a thraldom of ignorance and superstition, by the physician and the layman, that is deplorable in the present light of collateral knowledge.

The study of the physiology and chemistry of respiration is overlooked in the eager search for a specific for the unwelcome plague that blights so many homes. The avidity with which every phantom is reached after that is projected into the darkness, attests this truth; and we need not look backward very far to the time when Weigert's hot-air inspiration was a fad; or when Bergeron's bombardment with sulphuretted hydrogen was urged in homes and hospitals, but is now a discarded and disowned outcast by parent and employer; respirators, inhalers and exhalers have burdened the patent office and glutted a hungry market; costly cabinets have been built and leased to regulate intrathoracic pressure, when it has been a long known physiologic truth that the proportion of oxygen in the blood can not be increased by pressure, nor is it diminished by reduction of the pressure until it approaches a vacuum." When inanition has proceeded so far that muscular dynamism is no longer co-ordinated to functionate normal respiration, involuntary or voluntary, then mechanical resuscitation in broken-down or diseased pulmonary tissue would be indeed futile if not absolutely injurious.

Public-school text-books do not teach, and medical teachers and students do not study, the anatomic aids or physiologic processes of normal respiration enough. Solid and liquid foods and culinary arts are studied until cooking is regarded as an index of civilization. The therapeutic market is congested with digestive aids, until physicians and laymen are confused as to what to choose, whose or which chemical aid they shall invoke to conduct or complete a low, plain, simple, organic process, when innocence and abstinence alone should indicate the remedy; while, the first food we grasp for quality or quantity at our advent here, and the last we sigh for before we go hence, the "breath of life," and its uses, we utterly ignore.

Every physician accustomed to auscultation too often recognizes, especially in women, the inadequate function of respiration; another class, in whose members the same defect is observed, comprises the indifferent workman and tobacco habitués; still another is that easy-going, quasi-sporting element, including the gourmand, whose whole thought is to that zone below the diaphragm, whose choked liver and kidneys soon mark their habit and chrome their skin.

I once had an opportunity to auscultate a healthy chief of the Cheyennes, on the plains of Montana, and while breathing freedom's air from childhood, his lungs hung like a flabby appendix in his massive thorax, and I knew that the traditional "wind" of the Indian was a myth, and the "white plague" would soon wipe out his race.

A comparison of the post-mortem evidences of repair of tuberculosis of the various tissues of the human body shows that the lung far exceeds any other tissue in the body—not excepting the peritoneum—in its ability to overcome the effects of tubercular inoculation.

This, it must be admitted, is largely due to the systemic circuit of the obscure bronchial artery and its nutritional activity; while it also urges that a due anatomic and physiologic recognition of this artery, as belonging to the systemic and nutritional system as distinct from the purely functional one of the pneumonic system, will tend to introduce study for strengthening healthy, and repairing diseased, lung tissue through the proper channels, instead of clinging to the popular though erroneous methods of projecting or aspirating medicaments into and upon the mucous surface, that we know must stop at their first impact; the vibrillary motion of the cilia lining the bronchi, which is constantly *toward* the point of entrance, must prevent them, either by gravity or current, from ever reaching their intended traumatic or diseased destination, whether these medicaments be sprays, nebulæ or gases.

Nutrition and repair of impaired pulmonary tissue must be carried on through channels, identical with other similar processes, in other structures; and this, it is recognized, must be done through the metabolic functions of the systemic blood-current, by the selective affinity or specific action of tissue,[12] each fiber for its part, and in this the bronchial artery is the only source of nutrition for pulmonary histologic elements, and the pulmonary veins and pulmonary artery have no function for this.[13]

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SOME POINTS IN TREATMENT OF SEVERE CRUSH INJURIES OF THE EXTREMITIES*.

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In almost twenty years of observation, but more especially as attending surgeon to a large general hospital, which experience has been supplemented by a considerable experience in railroad injuries also, the writer has been particularly impressed with the urgent need of a better knowledge and comprehension, by the general profession, the general surgeon, and even the railroad surgeon, of the character of severe crush injuries of the extremities, the prerequisite to the proper insight to treatment. It has been a too frequent experience to witness the loss of limbs, and even loss of lives, from surgical treatment so much worse than useless as to be pernicious, and which displayed an amount of ignorance on the part of the practitioner which might be considered criminal, were the efforts not clothed with good intentions. It has been a too frequent observation that surgeons seemed to lack a proper knowledge of the surgical principles involved, and also that even railroad surgeons fall short of the best results.

The general practitioner fails from a lack of the application of surgical principles, contained in all our text-

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books on surgery, though perhaps not sufficiently well formulated, nor definite enough in their application to special cases. The general surgeon may fall short of expectations because lacking a large observation of these special cases, so necessary to the highest success in any special field, more especially this one. The railroad surgeon will probably not be lacking in surgical principles, and his experience may be well rounded, but he may fail of the very best results, by not possessing the inspiration which will carry his practice beyond the ordinary or routine.

The writer claims nothing new, nor original, in any ideas which he may present here, but he desires to emphasize what appears to be a general need for a more universal application of the principles of drainage in a class of cases in which it is most urgently needed, if the greatest good is to be secured.

So large a proportion of railroad injuries come within the scope of this article, and the results of treatment are so important to all concerned, that it would seem desirable to promote discussion, and disseminate our conclusions that improvement in treatment may be secured to the unfortunate.

Severe crush injuries are necessarily contused, lacerated wounds of a class that involves extensive destruction of cellular tissue, with portions perhaps destroyed in mass, conditions favorable to sepsis, with an enormous amount of dead tissue and wound fluids producing tension, with its attendant inflammation—a natural hotbed for bacterial development. Such conditions necessarily require a full comprehension of the principles of drainage, which I have sometimes thought was becoming one of the lost arts in surgical practice, being actually ignored because of the insane desire to carry out what is erroneously conceived to be the principles of antiseptic surgery; in reality, drainage is one of its most useful handmaids.

It has been the observation of every railroad surgeon, that it is quite impossible to form a correct estimate of the amount of destruction suffered by the tissues, in a subcutaneous railroad crush, or the amount of damage done to tissues near to, or even remote from, a severe injury of this class. The writer therefore deprecates the too common tendency to so-called conservatism in these cases, by the watching and waiting course, which surely brings the necessity for surgical intervention for the production of drainage, necessitated by the onset of sepsis, which surgical intervention, if performed at the outset, might have averted the sepsis, with all of its possible attendant consequences; among which may be mentioned the various infections, septic lymphangitis, thrombophlebitis, gangrene, spreading gangrene, and the general dangers to the patient of septicemia and pyemia. The dangers from pent-up wound fluids and necrotic tissue are greater than the possible harm from incisions intelligently made, or from any danger from infection through such wounds, the compensating advantages being infinitely greater than their possible disadvantages. Indeed, these incisions often reveal the necessity for drainage, which might otherwise be overlooked. Insufficient surgical intervention may subsequently call for interference out of all proportion to the most radical initial requirements.

Contused tissues are always subjected to a severe tax on their vitality, by an impaired venous return. The force of the arterial current is usually less at fault. It is this condition of the circulation which accounts for the great tendency to the extravasation of blood and serum, so favorable to the production of swelling and tension, which still further adds to the embarrassment of the venules. It has probably been the observation of every surgeon, that multiple incisions in skin flaps of doubtful vitality will often preserve their integrity. This is accomplished by the application of this principle, in relieving the burden of the return circulation. An extended application of this resource, in the treatment of considerable masses of contused tissues, as found in a crushed member, is often equally magical in its benefits. I therefore maintain that its intelligent application will accomplish results impossible of attainment by any other method, in the treatment of tissues not actually deprived of vitality. It will therefore be seen that the application of this principle will necessitate an apparently radical treatment, of seeming unnecessary severity, at the outset, which will in reality relieve the engorged tissues of their burden of dead cells and waste products, and safeguard the living cells from bacterial attack; also furnish avenues of escape for necrotic masses of tissue, relieve pain, and save the patient the dangers attendant on swelling, sepsis, and inflammation, and its necessary consequences. My plea, therefore, is for drainage sufficient to relieve the wound spaces, otherwise liable to extravasation fluids, and the living tissue cells from undue embarrassment.

To these principles of treatment must be added the application of the best surgical methods for carrying off and maintaining the wound products aseptic. This may be accomplished by an abundant hygroscopic dressing, though in the more severe cases the moist antiseptic dressing is more efficient. But in the worst of cases, continuous submersion, or continuous, through-and-through irrigation with an efficient antiseptic is required to accomplish what is demanded in desperate cases, which are usually already very septic.

A considerable experience has found formalin so valuable in clearing up septic conditions of the more malignant type, that it has led the writer to believe that we have in this agent a most powerful antiseptic, destined to a place of first rank, in the treatment of all septic conditions. While the writer believes that the devitalized masses of tissue should be removed at once, or at a comparatively early period, yet he believes that in the use of formalin we have an agent which will maintain dead tissue free from germinal invasion, and innocuous to the living tissues, and is itself incapable of exerting a very devitalizing influence on the living cells if used in proper strength. This enables the surgeon to conserve tissues otherwise destined to destruction, and at the same time not be an element of danger.

The principles herein set forth have been largely followed in the cases reported by the writer, under the titles "Conservative Foot Amputations," before the Omaha Medical Society, in November 1897; "Amputations," before the Western Surgical and Gynecological Association, in December of the same year; and "Skin Grafting in the Absence of Amputation Flaps," before the Nebraska State Medical Society, at its meeting in 1895.

This paper has left untouched many points in connection with this subject. A treatise was not intended. The emphasis of a few essentials, so regarded, is all that has been attempted. And though the writer's recommendations should not be indorsed by some, this much will be granted, that the following of these lines of treatment would certainly be an improvement on the results obtained from the practice of those who are possessed of a penchant for sewing up severe, contused, lacerated, even mangled members, and the failure to establish adequate

early drainage—the too common practice of the average practitioner and a fault from which the general surgeon and some railroad surgeons are not altogether free.

DISCUSSION.

DR. W. RUML, Cedar Rapids, Iowa—I desire to say a word or two in reference to the use of formalin, in connection with the paper of Dr. Lord. I have been using moist formalin dressings for some time, and so far they have proved eminently satisfactory. I use ⅛ per cent. solution of formalin for saturating sterilized gauze, and the gauze is applied moist. In this way drainage is favored, and the oozing from the wound cared for by the dressing and does not macerate the wound area.

DR. EDUARD BOECKMANN, St. Paul, Minn.—I was very favorably impressed with the remarks of Dr. Lord in reference to drainage. I have tried to do ideal surgery without resorting to drainage, but the older I grow the more I come back to treatment of wounds with it. As regards formalin, I have had no surgical experience with it. I have always considered it a good antiseptic, just as efficient as any other material for this purpose, but I do think its germicidal properties have been greatly overestimated. Formalin has been recently recommended for the purpose of preparing the skin, and in the opinion of prominent surgeons it is the best antiseptic we have for disinfection of the site of operation, and I should not wonder if formalin, used as a dressing, will prove as efficient as many other agents we now use. I rather believe it is a good remedy for dressing wounds, and will certainly try it when opportunity presents itself.

DR. J. P. LORD, closing the discussion—If I can see a case of railroad injury in its incipiency, or very soon after its occurrence, I do not believe the use of formalin either for the purpose of submersion or irrigation of the part is necessary. Thorough drainage with sterilized water may prove sufficient: but in cases where the wound is already foul, we have a valuable agent in formalin. Bichlorid of mercury, which was formerly so much used, I do not usually apply as a moist dressing, because there is considerable albuminous secretion which soon forms the albuminate of mercury, and this is inert as an antiseptic. In such cases I am a friend of carbolic acid, unless there is too great danger from absorption. My experience with formalin dates about two years, during which time I have used it extensively in clearing up unclean wounds of various kinds, and particularly necrotic ones, and where a limited space is to be covered I use it as strong as 2 per cent. of the forty volume solution, but that would make it much less than its percentage would indicate. I have found that even one-half of 1 per cent. was sufficient to devitalize granulations during that period of progress of the wound when granulations were so desirable. It exerts a much more powerful influence on the tissues than our first experiences led us to believe. I have seen granulations destroyed repeatedly by the application of 1 or 2 per cent., used for two or three hours. I have seen granulations destroyed by washing the part with a 2 or 4 per cent. solution. In a day or two thereafter I have seen a tanned necrotic layer appear on the surface, which must slough off before further progress can be made. The remedy should be used with considerable caution and in very weak solutions; ⅛ of 1 per cent. is the usual strength now used by me.

I recently had a case in which there was a most intense form of infection following a railroad injury, it being necessary for me to extend the palmar incision up through the palmar fascia, to open the sheath of the flexors clear to the elbow. The septic condition extended almost to the axilla, and it was evident that the patient would succumb if relief was not afforded, consequently the whole palmar surface of the man's hand, wrist and arm was laid open; the diseased tendons were cut away, and the wounds were packed with formalin as a dressing, shortly after which there was a very material reduction in the temperature of the patient, and it was really remarkable to see what formalin did in this particular case. Formalin was usd as often as it was deemed necessary. Here is one case of infection where formalin acted in a marvelous manner.

THE DIPLOMATIC representative of Bulgaria at Paris during the Exposition year is a physician, Dr. Kolotovitch.

TREATMENT OF GUNSHOT WOUNDS OF THE ABDOMEN: SOME NEW STATISTICS.*

BY H. H. GRANT, M.D.

LOUISVILLE, KY.

The surgery of gunshot wounds of the abdomen, which has been for some years pretty well settled to the satisfaction of the profession, received something of a shock by the report of the surgeons who served in the late war with Spain (see THE JOURNAL for July 9, 1898, and the published report of the last meeting of this body.) yet the inferences, and indeed the conclusions, affect surgical judgment to a considerable degree. It was because the settled data of private surgery were so much at variance with these reports that I deemed it justifiable to inquire a little further into the subject. The result of the investigation by Klemm shows, in an analysis of 152 cases, that even those in whom penetrating wounds in the abdomen were established, who did not die of immediate effects, eventually nearly succumbed to exhaustion from sepsis and later suppuration. The meaning of this is that, practically speaking, all penetrating gunshot wounds of the abdomen, untreated by surgical repair of the lesion, die either of hemorrhage, peritonitis or sepsis. It is not to be denied that a small bullet, in certain situations, pursuing an unexpectedly favorable course, may occasionally fail to produce a fatal injury, but it will be seen from the statistics I have reported, as well as those of Klemm, that such favorable results did present in only about 6 per cent. of over 400 cases. The complete analysis of the subject, made by Dr. W. E. Parker, settled, by the comparison of the reports of a large number of reliable operators, the following points:

The mortality after operations done in the first seven hours after injury is 52 per cent., as against 64 per cent. for operations at all periods. But a study of the table of Parker shows such variations in the mortality succeeding complicated and uncomplicated wounds of the various viscera all of fatal character without operation, as to indicate that, in uncomplicated wounds in some situations, the early operator will often save 75 to 80 per cent. of what would otherwise be fatal cases. His table also shows that of sixteen operations done, in which no intraperitoneal injury was found, three died, one from an overlooked perforation, and two from peritonitis due to infected blood clot—the fatal complication on which Klemm lays so much stress. Thus we see that no death was referable to the operation even as a contributing cause. It also appears that in considerably over a hundred cases—the exact number is hard to get at in the table, as in the classification it was necessary to duplicate often—there was no reported recovery from operation done twenty-four hours after injury.

There is still one other important deduction from this invaluable paper, supplemented as it is by many other sources of testimony: almost all operators agree that there is no reliable symptom of perforation or mortal lesion in the operable hours after injury. It will be interesting to review these facts in connection with the study of the reports I shall present a little later. Notwithstanding these, and others of an equally convincing nature, it is still published in current medical literature, and still finds a place in valuable text-books on surgery, that a considerable per cent. of untreated gunshot wounds of the abdomen will recover; and that treatment by operation may be deferred until symptoms indicate perforation.

Confronted by this state of things I decided to send

* Read before the Southern Surgical and Gynecological Association, New Orleans, La., 1899.

out the following questions to over a hundred prominent surgeons of this country: 1. In what proportion of operations, after tracing the ball into the abdominal cavity, have you failed to find perforations of the hollow, or dangerous wounds of the solid viscera? 2. In what proportions of fatal operations have you found, post-mortem, evidence of unsecured perforations or unchecked hemorrhage? 3. In what proportions of both fatal and recovered cases was there evidence of peritonitis at the operation? 4. How often have you had reason to believe, after laparotomy on a traced wound, the chances of life are lessened by operation? 5. Recoveries. 6. Deaths.

I have received in reply reports of 253 operated cases. I have preserved the originals, which are at the service of any investigator, but notable names and cases will be published in full. I have to thank the following gentlemen for the courtesy of response: Drs. W. L. Robinson, W. O. Roberts, J. B. Bullitt, C. A. Wheaton, J. Ransohoff, T. J. Crofford, James Dunn, L. M. Tiffany, E. Laplace, A. T. Bristow, R. Douglas, H. H. Mudd, W. E. Parker, Joseph Geiger, F. McRae, W. E. B. Davis, J. Davis, A. M. Vance, George Crile, J. B. Murphy, C. A. Powers, D. Barrow, L. Freeman, L. P. Nolte, A. J. Ochsner, H. B. Delatour, J. G. Sherrill, F. Samuel, M. H. Richardson, R. E. Fort, W. L. Rodman, H. M. Taylor, P. S. Conner, B. M. Ricketts, C. C. Commegys, W. Potter, J. V. Brown and A. H. Cordier.

I have in no case made use of any other report than the direct answer. I have not endeavored to compare the mortality with reference to the organs injured nor to the time of operation; not alone because both of these points are covered by the tables of Parker and Coley, but particularly because I wished to determine the propriety of exploration in all cases of penetrating wounds prior to the development of general peritonitis. The great majority of these cases are not included in any published tables, and many of them are accompanied by notes indicating that the operation was made early.

An analysis of the reports develops a number of most important and interesting facts. The mortality in the whole number is about 52 per cent.—the best results reported in any published table, an indication that the prognosis is improving with the more energetic measures of treatment. In 21 of the 253 operations neither perforation nor serious hemorrhage was found. It is to be doubted whether so large a number of *traced* penetrating bullets could fail of more serious injury, and there is a presumption of faulty diagnosis in some of them. However, they all recovered, so the operation did no harm. In 28 of the 133 fatal cases there was found, post-mortem, the evidence of faulty surgery in the presence of unsecured perforations or hemorrhage. If we omit the 21 non-perforated, and the 28 unsecured, the mortality is 51 per cent. of the whole number. Of the recovering cases, 11 are reported to have had notable peritonitis at the operation—some 6 or 8 others report traces. This may be taken to indicate that about 5 per cent. of patients with severe peritonitis may be expected to recover after laparotomy. In answer to Question 4, three surgeons confess to having done harm by the operation. These were men of experience. One thinks the operation hastened death by shock, as the source of hemorrhage was not discovered. As this patient must have died anyway, it is not a figure in the calculation. The second states that though the section disclosed a perforating wound of both walls of the stomach, there was no extravasation until the organ was pulled forward at the operation. Though this conclusion be correct, no surgeon would hesitate to do a section when he knew a perforating wound of the stomach existed. It is such wounds that Klemm declares death follows from sepsis and abscess in those who survive the immediate injury. The explanation of the third exception is practically the same. Thus the surgical conclusion is, fairly, that in no case was the result affected unfavorably by the operation. The following table, made up of the most favorable reports, by surgeons too well known to be misunderstood about statistics, shows what may be accomplished in a considerable number of cases in good hands. Only those in which a lesion was found are included in this table.

Name.	R.	D.
Tiffany	3	4
McRae	2	1
Mayo	3	0
Ochsner	3	1
Douglas	4	1
Geiger	8	2
Dunn	2	1
Rodman	3	3
Delatour	3	2
Richardson	1	1
Nolte	9	6
LaPlace	13	7
Parker	5	7
Vance	3	4
Grant	4	1

The result is 67 recoveries and 41 deaths, giving a percentage of recovery in unselected cases, without regard to the time of operation, or to the organ injured, of over 61 per cent.—better than the strangulated hernia gave fifty years ago. At the last meeting of this Association I reported 4 cases with 3 recoveries—2 after resection of the intestine. Since then I have operated on but one, a negro man, seen fourteen hours after injury. Three perforations of the ileum were found, one evidently being made by the penetration of a knuckle of a bent intestine. Intense abdominal distension with pain set up on the second day, the pulse 130, the temperature 106. The bowels, however, responded to salines, and he had twenty-seven movements in twenty-four hours. The purgation was kept up, the distension passed away, and he recovered without further accident.

It is next to impossible to review the combined statistics without concluding on peremptory instruction. The reports of experienced and favorably situated individual surgeons are even more mandatory. These cases demand prompt exploratory surgery—the simplest and least burdening in responsibility required in the abdomen. And how widely extended is the field! If we will but think, we will remember that as often as at least once a week, the daily newspapers of every large city will chronicle an abdominal gunshot within the reach, in abundant time, of some local surgeon. This is true all over the southern and western country. Very few of these are ever seen by surgeons. Why not? Because we have not educated the physician to appreciate the folly and fatality of delay, and the hopefulness of prompt and efficient aid. True it is that while most of us are agreed in the main that operation is indicated in gunshot wounds of the abdomen, and that delayed cases give bad returns, the exact statistics are not made clear to the general practitioner.

Every man who deserves the name of physician now knows that a strangulated hernia can not get well without operation, that long taxis is dangerous, and delay little less than fatal. All such patients, in anything like intelligent hands, are hurried to the surgeon. But

it has been only a few years since text-books of surgery advised opium, elevation of the hips, hot applications, and delay for hours, even days, to see if the condition could not be relieved without surgery; then, when too late for success, division of the stricture without opening the sac, which can not half the time hope to relieve the constriction. The mortality after an operation, which if done in our time in season, under proper surroundings, is less than 1 per cent., is put down by Gross, in 1850, at nearly 50 per cent.

Not less clear are the indications for operation in a traced gunshot wound of the abdomen. But there time is far more precious than in hernia, and the need of positive and uniform instruction is imperative. There is some excuse for our wavering and inconsistent views on appendicitis; its mild prognosis when treated by expectancy; its masked pathology; and the history of frequent recovery after desperate symptoms, naturally admit of difference in surgical judgment; but in the lesion under consideration there is no double ground. Exploration is the only means of accurate diagnosis, and death is practically certain in untreated penetrating wounds after twenty-four hours' delay. How much this means to the prolongation of life can not be determined until these conclusions become surgical principles, and are inculcated into the mind of every practising physician in our western and southern country.

As to the duty of the surgeon, I add here as I declared in the paper read before this Association at Memphis: "With these facts before us, it is clear that to delay in a delusive hope until peritonitis shows its folly, is almost a crime. The practical management of a suspected penetrating wound is as plain duty as the tying of a bleeding artery. As soon as possible after injury the patient is to be transported to a suitable place and under usual precautions; after all preparations are made for laparotomy and repair of lesions, an experienced hand should carefully trace the course of the ball into the cavity, if it goes there. This is easy enough when the penetration is direct from the abdominal wall, but often difficult or impossible when from behind or from the thoracic or pelvic cavities. Under these latter circumstances the history of the direction of the projectile, and the general symptoms must be the only guide, giving to the side of operation the benefit of the doubt."

PROFESSIONAL EDUCATION AND ETHICS.*

BY A. E. BALDWIN, M.D., LL.B., D.D.S.
CHICAGO.

In presenting this subject I am not unmindful of the fact that it is large, and one that affects the interests of not only the profession—or our branch of it—especially, but even more the interests of all those who are put under our charge. The importance of it has grown on me each year for many years, and I have always been attracted to anything that I have found in print pertaining to it, but to my mind the most vital point is seldom touched on, and now, when our schools are almost universally demanding a course of four years, as well as considerable attention to a preliminary education, the time is ripe to call attention to an absence in this teaching of some things that are of vital importance to the practitioner and to those who patronize him.

May I be allowed to enter a plea for the merging of the two subjects of the paper into one, for the education is not and can not be complete without great attention being given to the part of the education called "ethics," the meaning of which is: "The science of right conduct and character; a system of principles and rules concerning moral obligations and regards for the rights of others?" Why should not this be regarded as important as any part of the so-called "education." Without it our young graduates will not be able to enter on their duties as professional men with a proper education, for we should consider that our duty to our patrons consists in more than an effort to place their money in our pockets in as great quantities and for as little service as possible. How can we expect this matter to be regarded as in the least vital to our graduates, when the teaching pertaining to these duties is so different? To be sure, they are hard to specifically define in individual cases, but in them all there are certain well-defined principles of equity and justice which are apparently absent from the training of the mind and the hands of students in these years of student life. Might I not go a step further and say that there are many things taught in our colleges, by both precept and example, that exert a very baneful influence on the moral element of the student, and it is a fact well known to us all that should a teacher attempt to teach one thing and then do the opposite, the good of the attempted teaching is not only *nil*, but a lesson is drawn by the pupil that is not, to state it mildly, in the line of ethics proper?

In this matter of education I should speak of the lack of encouragement—at least in most of our schools—of original work in microscopic and bacteriologic investigation, and help to settle the matter as to the exact place occupied by the much-talked-of microbes and bacteria. There are many things in regard to oral troubles that are as yet uncertain, and these students may, if encouraged and helped while attending college, give us much light as to causes and results; they may be able to show us that in many instances these organisms are present to assist Nature in alleviation, or may clearly show us facts, new to us, of their ravages. I am constrained to say that there is reason to fear that we have oftentimes arrived at conclusions that are unwarranted with the light of to-day; or, in other words, many of our conclusions are reached without a sufficient grounding in facts. Illustrating this I call to mind a teacher in one of our schools, who has brought before the profession scores and probably hundreds of remedies, each one "more wonderful" than the preceding one, and many of them would never be recommended or used if a little more time was taken by him and others in proving their worth before shouting their almost specific virtues.

I do not want to do any injustice to teachers, or schools; my effort is to simply call attention to a few of these shortcomings with the hope that it may result in bringing others to recognize these truths, and that in time a change may be brought about in the character of the instruction given in colleges, offices, and societies.

Why do we not demand that the standard of our department of the profession be raised? Is not the reason this: we do not practice true ethics ourselves and with our patrons? Are we all, and at all times, careful to advise our patients just what we should want to be advised were we in their place; are we certain that we have not at times advised and performed operations that we knew at the time would have been better done some other way?

Some years ago I visited a neighboring dentist, and while there he prepared the cavity and filled a tooth for a patient, and when about ready to introduce the filling he asked me to examine the cavity. I did so and at the

*Presented to the Section on Stomatology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

me time glanced about the mouth, and discovered there ere several teeth that had cavities in them. After the tient stepped out I asked him if he did not notice them, d he said he did, but that he had learned that the best olicy was to do only the work asked for, and then he uld charge a good price therefor, and would still escape e charge of being a high-priced dentist. What an exmple of ethical, or rather of unethical practice; how ttle of the Golden Rule was shown in the transaction!

Another example is seen in a so-called reputable dentst who advised me not to use tin and gold for filling, and hile admitting that it was an excellent material, said at one could just as well get patrons' permission to use old and by so doing get larger fees. In another inance, some very faulty work of a neighbor coming to y attention, I called his attention to the faulty condions which obtained, and he said that for the pay he had ceived he could not afford to do the work any better, pparently forgetting that if he did it at all he could not fford to do anything other than the very best in his ower. I might cite more of such examples, but these ill suffice to show what a lack of information is current s to our duties to those put under our care, and the oral responsibility resting on us as professional men. hould we not, as the guardians of those placed or fallng under our charge, take time to advise them in every ay in our power, as to conditions present; causes therefor, and, as far as we can, how to avoid them in the uture? All who recognize the importance should gladly give all the time necessary in instruction in all ways ossible in all that pertains to proper care of the teeth nd their accessories. There is an old saying something ike this: "A stream can never rise above its source," nd in this matter, we can not expect the young graduate—without he has great breadth and strength of charcter—to rise superior to the moral tone of his alma nater, and this paper is intended to call attention to a ew of the many ways in which the college teaching is acking in moral tone, both directly and indirectly.

In the first place the force of teaching should be addressed to, in the main, an endeavor to instruct students n how best to serve patrons; to have them feel when they re patronized that the position they occupy is one involing a responsibility either as to advice or in regard to ervices to be performed; that deceit has no place in their ffices and that to all coming to them they should, as far s is possible, "put themselves in the other's place" and arefully advise accordingly. In the mind of the stuent his teacher represents to him all that is of the highst type of a professional man, and, as said earlier in the aper, if the oral teaching is good, and thoroughly in acord with true ethics, and then the student learns that hile the college is advertising to do work for those who an not afford to have work done at a private office, and his work to be done at the college at the bare cost of maerial, and then this college accepts all who come without egard to ability or inability to pay proper office fees, nd charges them for the gold used, 75 cents or $1 a heet, for gold marked No. 3 but which is made, by order f the college, only about No. 2 or 2.5, it will not take hat student long to determine that, so far as the manageent of that college is concerned, the moral lesson to be rawn is that the professional duty is to practice deceit nd literally "prey" on the public and fleece it at every pportunity. Then when his teacher shows him a large cclusal cavity in a tooth, where there remains very little ut the enamel walls after the cavity is prepared, and dvises him to fill such a cavity with a mass of gold, when ny one who is a metallurgist and also knows the brittleness of the enamel when not underlaid with dentine, would see his folly, he will know that in so doing you are doing worse than the thief, for you have not only taken his money for doing him harm, but you have weakened his faith in the profession at large.

May it not be a serious question, when an anterior tooth is broken down badly, where there are large distal and mesial cavities, and the instructor sees a fine chance for making or putting in fillings that in their neatness are at least temporarily a monument to his mechanical skill, whether the student will be influenced, when *his* patron comes to him with similar conditions, to try and reproduce the same kind of temporary monument that his teacher did, with the result of obtaining quite a good fee, while the patron soon learns, through the almost certain failure of the work, that *his* interests would have been better and much more permanently served had the tooth been treated to a nicely-adjusted porcelain crown, which work would have been less conspicuous, less expensive, and much more durable than the other, and the same thing would doubtless be true of the work done by his teacher as well.

Should not the instruction in the college course tend to broaden the character of the student so that even when his patron wants work of an expensive character done, and is willing to pay for it, but which the dentist *knows* would be better, and more serviceably done by a much less expensive method, he should stand firm in recommending that which his honest professional judgment leads him to believe is for the patron's interest. This may be evidenced by some filthy catchall of a bridge being adjusted instead of a clean and well-constructed plate. I hope no one will understand me as condemning all bridges, for that is the farthest from my thoughts, for I consider that, in the proper place, and of proper construction and adjustment, nothing is more beneficial than the bridge. The practitioner should sink himself and, if necessary, his technical skill, in trying to do for the permanent interests of his patron.

Should not the student be instructed by example as well as by precept by his teacher that he should gladly take some time each day if necessary to give advice as to care of the mouth and teeth, and this many times without any direct recompense? Should we not realize that we are here for a broader purpose in life than to gauge everything that we do by a direct money value? Should not our young men learn that they should be as ready to freely advise how their patrons can often prevent trouble in the mouth by care or preventive means, as to repair the abnormal conditions that obtain and for which the patient comes? The teacher should realize his responsibility and honor his position, instead of depending on his position honoring him.

We can not ignore the fact that our instructors in our institutions of learning, many of them probably without an idea of its far-reaching influence on the moral development and character of the student, are guilty of practices that are demoralizing, and even might be classed as unethical and dishonest. I could cite many instances illustrative of this, but will mention only one or two: A professor in one of these educational institutions compelled all of the students who took his examination—and it was necessary that all the graduating class should take it—to have purchased and have in their possession a certain book and certain instrument, informing them that he had no interest in the sale of the same, either financial or otherwise, when the fact was that he had a contract with the publisher and manufacturer and was at the time collecting a royalty on each book or instrument

sold. How long can such a teacher hold the respect of his students, and what is worse, who can say how much this example may develop of the unethical in their professional career?

Should we not all endeavor to "speed the day" when especially all the teachers and teaching in our schools will not only endeavor to give correct instruction in the technique of the work, but will exert an entirely healthful moral influence and one that will help to make large-caliber and broad-minded men, men who will not allow themselves to be dwarfs or pursue dwarfish methods?

CASE OF HEPATIC ABSCESS PRESENTING SOME POINTS OF INTEREST.*

BY HERMANN B. GESSNER, M.D.

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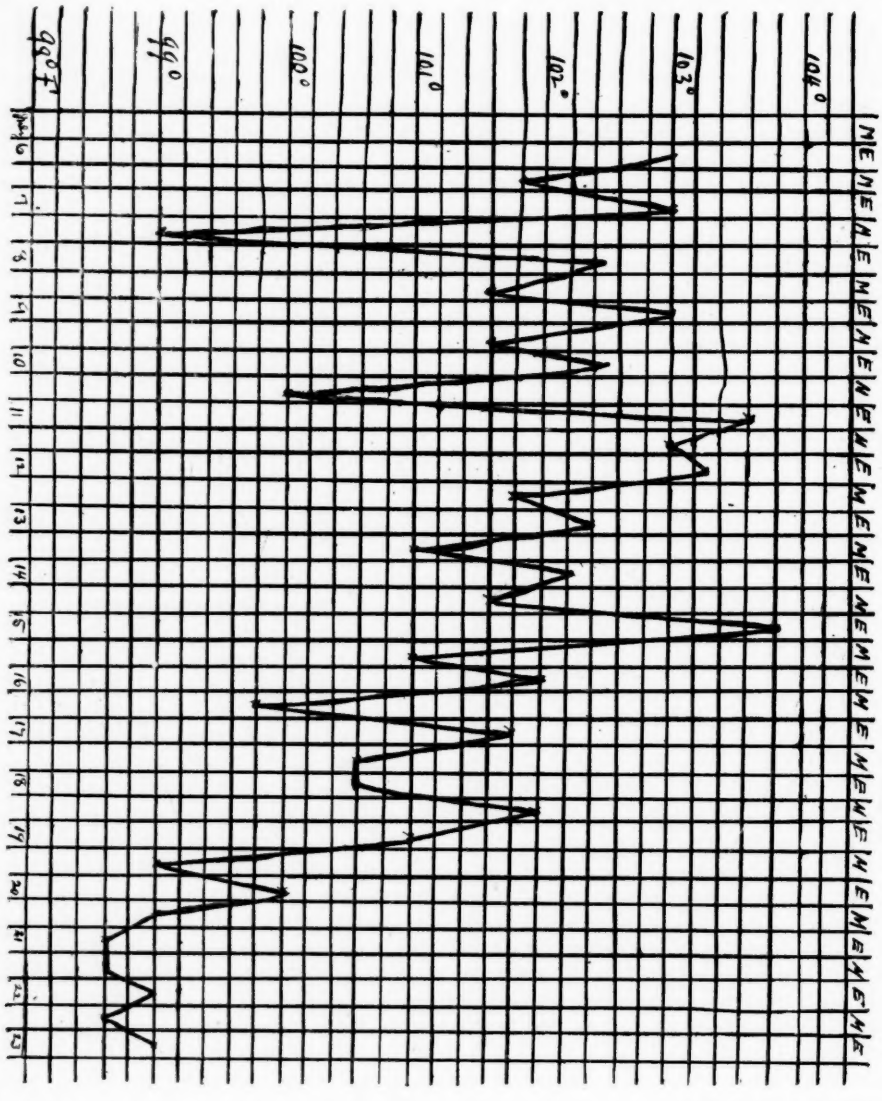
NEW ORLEANS, LA.

D. V. is a full black, a laborer by occupation, 30 years of age. His family history has no bearing on the case. Previous to April last he had had no disease of any importance save an attack of dysentery six years ago. He has used alcoholics, but not in excess.

In April, 1899, he began suffering from chills and fever of an irregular type, for which he took calomel and quinin without effect; his bowels were constipate at this time.

On July 6, the man was admitted to the hospital, u der the care of Dr. Jules Lazard. There was high te perature, with enlarged and tender liver. Exploratio in the mammary and in the mid-axillary line brou out blood only. Blood examinations made by the pat ologist of the hospital, Dr. O. L. Pothier, exclud malaria and typhoid fever. Examination of the lun by Dr. Lazard revealed dulness, bronchial breathin moist râles and increased vocal resonance at the base the right lung posteriorly. There was, however, no e pectoration. The administration of an expectorant mi ture was followed by the expectoration of sputum whi was noticeable for nothing more than its profuseness two examinations of this sputum failed to determin the presence of tubercle bacilli. An exploring need was now introduced through the sixth intercostal spac posteriorly, 2½ inches to the right of the vertebr column. Thick muco-pus of an extremely foul od was aspirated; culture showed the presence of the baci lus pyogenes and of staphylococci.

On July 19, I had the privilege of examining the p tient, through the courtesy of Dr. Lazard. He w



much emaciated, and was greatly depressed by the action of toxins, an index of whose activity was the irregular temperature tracing. Physical exam-

*Read before the Orleans Parish Medical Society, Aug. 26, 1899.

mination showed flatness and absence of respiratory sounds over the right side of the chest, below the level of the fourth rib anteriorly, the sixth posteriorly. The sputum consisted of extremely foul muco-pus. Taking into consideration the history and the present physical condition, I made a diagnosis of empyema, probably resulting from rupture, into the pleural cavity, of a pulmonary abscess which was at the same time emptying itself, in the usual manner, through bronchus, trachea and larynx. The patient, having been transferred to a ward of which I have charge as clinical assistant to Prof. R. Matas, was brought to operation on the morning of the 20th. Strychnin and digitalis had been given to prepare him for this. In view of the depressed state it was determined to use a local anesthetic; a solution consisting of eucain B 1 part, sodium chlorid 8 parts, and water 1000 parts was employed, the total quantity used being fl℥i. Exploration in the eighth interspace, on a level with the posterior border of the axilla, showed the presence of foul pus at a depth of 2½ inches. An incision was made from this level toward the median line posteriorly, over the ninth rib, three inches of which was removed subperiosteally with the Denison costotome. Having again explored and found pus, I pushed the scalpel along the needle and opened the abscess cavity, from which flowed a quantity of foul pus. The abscess cavity, explored with the finger, extended downward and forward toward the right hypochondrium; pressure over this region caused the freer escape of pus. Inspection of the plane of section showed the condition one, not of pulmonary abscess or of pleural empyema, but of hepatic abscess, with adhesions which shut off the pleural and abdominal cavities. To make sure of this, a slice of visceral tissue was shaved off for examination; the report of the pathologist later confirmed my opinion. The operation was completed by suture of the skin to the deeper parts so as to limit the area exposed to pus infection and toxin absorption. Boric acid irrigation and iodoform gauze packing were practiced.

Immediate improvement followed the evacuation of the abscess: the temperature fell to normal, not rising again thereafter; the appetite improved to a remarkable extent. This last was gratified by placing the patient at once on full diet, a move which we at no time had cause to regret. Closure of the abscess cavity was rapid.

The expectoration of fetid pus still continued, however.

On August 8, when the hepatic cavity was almost completely closed, the patient coughed up about ℥i of the foul pus which had been originally present. There was, however, evidently no connection between the source of this pus and the hepatic cavity, for this reason: the little pus that flowed from the latter was practically odorless, while the foul pus coughed up contained not a trace of the blood made to flow from the hole in the liver by free digital exploration.

Examination of the chest showed a hyperresonant percussion note over the base of the right side of the chest, anteriorly and posteriorly. Exploration—with the hollow needle—in the fourth intercostal space anteriorly was negative. Basham's mixture, that preparation of iron from which I have had the best results, was now given in ℥ss. doses after meals, while the oil of cloves was given every four hours, 5 minims in emulsion of slippery elm, as a pulmonary antiseptic. Improvement both in the general condition and in the quantity and quality of the expectoration was now observed; this has continued until at the present time the patient weighs 155 pounds, ten more than when admitted, while no sputum has been expectorated for over a week. Examination of the chest shows diminished volume of respiratory sound over the base of the right lung anteriorly and posteriorly. The incision is represented by a small area of granulations. The skin originally turned in to line the depths of the wound is flush with the surface, having been pushed out by granulations, just as is the case after using Neuber's method of turning in the skin to line a bone cavity left by sequestrotomy.

Comment: What was the origin of the trouble in this case? Can it be that a pulmonary abscess did rupture downward through the diaphragm into the liver, and give rise to hepatic abscess? The correctness of this explanation I doubt very much. Not to dwell on the improbability of pulmonary abscess lasting so long without cough, it is hardly likely that such an accumulation, with the easy route through soft lung tissue and open bronchi before it, would prefer the harder path through resisting diaphragm and dense liver tissue.

The chances are that we have had to deal with a hepatic abscess rupturing through the diaphragm into a bronchus. If it is, and I see no reason to doubt this, it is the first case of the kind coming under my observation which has terminated favorably. This attempt at evacuation by Nature, aptly compared with drainage through a chimney, is certainly not one that augurs well for the future of the patient.

It may seem far fetched to trace the suppurative hepatitis back to the dysentery of six years ago, but if gonococci may be present in the urethra thirteen years after the clinical signs of such infection have disappeared, as I have seen stated, I see no reason why the bacterial or protozoan cause of dysentery should not remain dormant in hepatic tissue six years or longer, until given an opportunity for active development by some depressed state of the patient's health.

As to the treatment, I wish to call particular attention to the thoroughly successful production of analgesia by means of the 1-10 per cent. solution of eucain B. The division of the rib was made absolutely painless by the injection of this solution along both borders of the rib at either extremity of the excised segment. Again, the favorable influence exerted on the fetid expectoration by the oil of cloves is worthy of note.

A point worthy of discussion is the source of this same expectoration, the pathologic explanation of its existence independently of the abscess whence it originally emanated. I had the opportunity of seeing, last winter, an autopsy on a case of hepatic abscess that had ruptured through the diaphragm and been in part expectorated. Instead of finding a large hole to explain the free expectoration of hepatic pus, it was only after a long search that a minute opening, certainly not over ⅛ inch in diameter, was found. So in the case here presented, it is probable that there was a small channel connecting the hepatic abscess below with a burrow in the lung tissue above or a dilated bronchus. Relief of intra-abscessal tension, combined with pressure by the gauze packing, probably brought about the closure of this small channel of communication and permitted the independent existence of two cavities, one of which healed quickly on account of its adequate drainage, while the other, the pus of which had to go up hill, lingered until the oil of cloves destroyed the bacterial cause of the continued suppuration.

1933 Ursulines Avenue.

GASTRECTOMY.

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Total extirpation of the stomach and a union of the severed pyloric end with the esophagus is an operation almost unique in the annals of surgery. The first operation was performed in September, 1898, since which time four operations have been added to the list, two done in this city. It is with pleasure that I am permitted to present the history of a third as follows:

Mrs. S. F., a native of Germany, aged 52, housewife, gave this history: Her father died, aged 48, of pneumonia, the mother at 62, the cause unknown. The patient entered St. Mary's Hospital on June 23, 1898. She had worked very hard for the past twenty years, doing rough work, lifting heavy weights, and as a laundress had used the wash-board a great deal, causing much pressure on the abdomen. She had been married twenty years and had three children, two being still-born She had always menstruated regularly, and considered her health good. Four months before she began to have severe cramps at night, and these she attributed to the presence of gas in the intestines. They were relieved by getting up and walking about. These cramps recurred every alternate night, and at such times she usually vomited a clear, bitter fluid, after which she felt relieved. Latterly the cramps occurred more frequently, and some time within the past six months she observed a tumor which has grown more and more prominent. Of late she had eaten very little, as food distressed her and she was only comfortable in the recumbent position. She had lost much flesh and was rapidly growing more feeble. She gave a history of gastric and intestinal indigestion for several years past; the bowels never moved naturally—she took purgatives every alternate day. She passed twenty-six ounces of urine the day prior to the operation, sp. gr. 1012, no albumin, sugar nor renal debris.

The patient was delicate looking, thin, the face pinched and anxious, and the pulse thready and very compressible. The integument was thin, flabby and rugose. She had lost flesh quite steadily and perceptibly during the past four months, her present weight being ninety pounds. The tumor, felt in the left hypochondrium four inches from the median line, a little below the cartilage of the tenth rib, was kidney-shaped, its convex border presenting outward; it was somewhat irregular in outline. On pressure it easily glided beneath the diaphragm in the direction of the loin. The long axis of the tumor was nearly vertical.

The diagnosis lay between a floating kidney undergoing degenerative changes and a cancer of the stomach. The clinical history presented features common to either lesion, but the position of the growth so far to the left, its shape and mobility, unusual to cancer of the stomach, induced the belief that it was a kidney. The primary incision, therefore, was on the outer border of the rectus, as recommended by Langenbuch for the removal of the kidney. On etherizing the patient, and before beginning the operation, one ounce of whisky with two of milk were given by enema, and during the operation strychnin and whisky were given hypodermically at regular intervals.

On reaching the peritoneal cavity, the site of the tumor was found to be at the lesser curvature of the stomach, which occupied a nearly vertical position, and owing to the laxity of its peritoneal investment, was easily displaced inward and upward as observed before the operation. I had neither witnessed the operation n had the opportunity of studying the methods pursued others.

My technique was suggested by purely anatomic co siderations, and was as follows: The greater omentu was ligated in separate portions from right to left, alo the greater curvature. Next the gastrosplenic omentu with the vasa brevia, and in like manner the lesser gastrohepatic omentum, were tied off. The pyloric e tremity was next grasped below the growth with forcep the blades of which were protected by rubber tubin and severed, having first carefully packed it about wi hot sterilized gauze. The esophageal end of the stoma was found to be fixed by the gastrophrenic ligament, a some dissection was here necessary in order to free t severed esophagus sufficiently for the adjustment of t Murphy button. The stomach was then raised, force with rubber protectors applied, the tube was severed the point of election near the stomach and the org removed. The male half of the button was adjusted the pyloric extremity by a fine running silk thread, t female to the esophageal and the button clamped. A cessory stitches were placed about the point of junctio The parts came easily together without undue strain tension. The loss of blood did not equal that observed an ovariotomy with adhesions—the viscera and cavi were protected as much as possible by hot steriliz gauze. The time occupied by the operation was one ho and forty-five minutes. This time—including etheriz tion and dressing, two hours and ten minutes—wi mature experience I am sure can be lessened. The ter tory to be ligated is necessarily great, but with perfe assistance it can be rapidly compassed.

The Murphy button may not be the best method effecting union in gastrectomy. It certainly shorte the time of the operation, an essential factor in abdo inal surgery. I could easily have effected an end-to-e anastomosis in this case, and but for the feeble conditi of the patient, I should have adopted this method. I do not care to court the anxiety and the uncertainty of fortuitous transit of the metallic button the entire leng of the intestinal tube. The operation per se presents n obstacles greater than those that are daily encountered b the abdominal surgeon. It is an operation *sub judic* Experience is yet too limited to enable us to know what extent it is a beneficence, if at all, to those who ha survived it. The mere prolongation of life under certa conditions may be a questionable or even an undesirab blessing, but from the standpoint of the scientist th success of the operation is a triumph. It opens a ne chapter in the annals of surgery, and essentially modifi our notions of the vital and indispensable part perform by the stomach in the natural and physiologic order the digestive process.

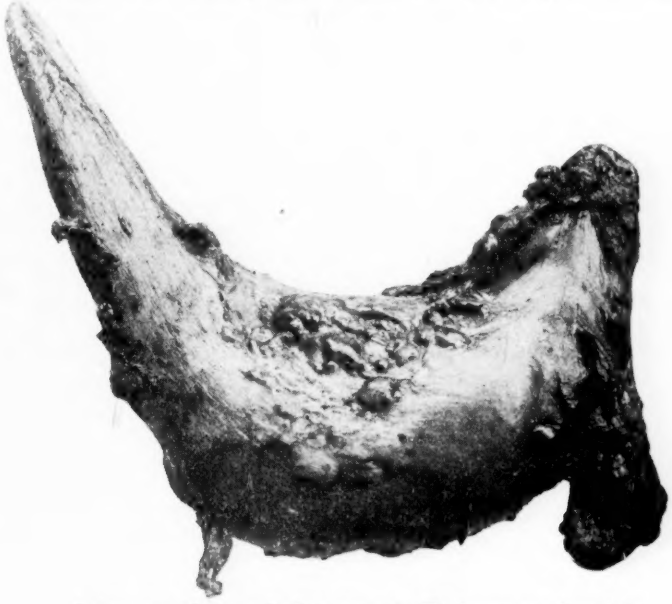
My patient survived the operation forty hours—th temperature, three hours after the operation, was 98. the lowest pulse-rate 140. The temperature remaine subnormal to the end, but the pulse-rate 150. Whisk was given hypodermically every half hour, strychni 1/40 gr. every two hours, and whisky, ℥ss, milk, ℥ every two hours, digitalin 1/00 hypodermically eve four and six hours, and several transfusions of salt sol tions every six hours. The patient secreted only 6 1 ounces of urine after the operation. The severe pa complained of was relieved by 1/8 gr. injections of mo phia. She slept at intervals of fifteen and twenty mi utes, and was at all times conscious and rational. No withstanding the unremitting stimulation and all po

sible nutrition, she never rallied after the operation and sank at the end of forty hours, from shock.

Post-Mortem.—This was held ten hours after death. The skin and muscular layers were united and undergoing cadaveric changes. The peritoneum was closed. The omentum and tissues about the field of operation were dark and cadaveric ; no blood nor fluid in the peritoneal cavity, union between the pylorus and esophagus appeared perfect. I excised the button with an inch or more of included tube and intestine, which are here exhibited. In this case there was very slight loss of blood, no unusual manipulation of vital parts, undue exposure nor prolonged anesthesia to account for the fatal issue, and the after-treatment shows the resources of stimulation, supportives and heart tonics to have been fairly exhausted. Stress has been laid on the employment of digitalis in these cases, for its inhibitory action on the cardiac centers, with the hope that it would control the reflex disturbances incident to division of the pneumogastric. In the present instance the effect of digitalis was *nil*.

Murphy button in situ. Union complete at junction. X denotes esophageal opening.

What effect the elimination of the mechanical function of the stomach and the solvent powers of the gastric juice must have on nutrition remains to be seen. If the distinct physiologic function assigned to this organ can be dispensed with, without serious interruption in the chain of vital processes ending in the conversion of dead into living matter, we shall learn that the organic ferment and free acids of the stomach are not essential to life. It is well known that the nature of the change of foods in the alimentary canal is partly physical and partly chemical, and does not involve any marked alteration in their chemical characters. Alimentary materials are not decomposed nor converted into substances of a different kind, but they are simply transformed into soluble materials of the same class with themselves. The carbohydrates after digestion remain carbohydrates. The albuminoids still remain albuminoids, and fatty matters retain the chemical properties of fats. The conversion of starch into glucose by the digestive act is a process of hydration, and can be artificially accomplished. The conversion of albuminous matter into peptones in the stomach is likewise regarded as a hydration, and can be artificially induced by boiling at a high temperature under pressure. The gastric juice is essentially an acidulated solution of pepsin, which can be easily imitated by the chemist, and thus the elementary part of digestion can be artificially accomplished, viz: by solution, acidulation and peptonizing, preparatory to its immediate introduction to the alkaline juices of the small intestines. These organs contain no pepsin ferment, have no transforming effect on albuminous matter, and produce no peptone from coagulated fibrin. They slowly transform starch paste into glucose, and oily matters containing fatty acids are emulsified. Hence, on purely theoretic grounds, the removal of the stomach appears to present no insuperable obstacles to the processes of digestion and assimilation.



Appearance of stomach after removal. The cancerous deposit is well shown at the lesser curvature.

813 Sutter Street.

Therapeutics.

Hay-Fever.

Müller, of Vienna, treats chronic hay fever by the use of the following formula, says *The Practitioner:*

℞ Menthol ..... gr. xlv 3
Resorcin ..... gr. xlv 3
Alcohol ..... ℥iiiss 14

His patients came from the United States and England. They were all more or less neuropathic, and were subject to gastrointestinal troubles. As he always believed that there was a close relationship between gastrointestinal disturbances and hay-fever, he at once treated the cases by administering alkaline mineral water, using massage and other well-known forms of treatment in that line. In addition, he applied a solution of silver nitrate to the nasal cavities by means of a brush, and irrigated with seven or eight litres of water, after which he applied the above solution.

Urticaria.

Buckley gives the following prescription as an application for urticaria:

℞. Chloralis
Camphoræ, āā.....3i
Pulv. amyli.....3i to 3ii
M. Sig. Keep tightly corked in a wide-mouthed bottle. Rub in with the hand.

Gaucher prescribes the following application:

℞. Alcoholis
Chloroformi
Etheris sulphurici, āā.....3iii
Menthol.....3i
M. Sig. To be applied in the form of a spray.

B. Wolff says that he relieves the most acute symptoms of urticaria within a few hours, and effects a cure within twenty-four hours, by giving sodium phosphate in doses of 4 or 5 gm. every three hours, in concentrated solution. The following solution may be used topically:

℞. Prepared calamine.....gr. xlv
Zinci oxidi.....gr. xlv
Acidi carbolici.....gr. xv
Aquæ calcis.....3i
Aquæ rosæ.....3ii
—*Sajous:* "Cyclopedia of Practical Medicine."

The following prescriptions have proved efficacious in urticaria:

℞. Sodii salicylatis.....3iv
Potassii bicarbonatis.....3iv
Aquæ menthæ viridis, q. s., ad.....3iii
M. Sig. Teaspoonful in water after meals. Useful in rheumatic subjects.

℞. Liquoris potassii arsenitis.....m. xxiv
Potassii bromidi.....3iv
Syrupi aurantii corticis.....3iv
Aquæ, q. s., ad.....3iii
M. Sig. Teaspoonful three times a day. Useful in neurotic subjects.

Measles.

It is stated that good results may be obtained in the treatment of measles by rubbing the body, morning and night, with a salve, consisting of:

℞. Ichthyol.....gr. 450
Lard.....3iii
This practice was suggested by the favorable results obtained by the same treatment in variola. Only one or two rubbings seem to be necessary to reduce the temperature to normal, when the patches gradually grow pale and disappear. It requires only four or five days to complete the results, after which a warm bath removes what is left of the salve.

IODOFORM IN THE BRONCHOPNEUMONIA OF MEASLES.

Iodoform has been used in the bronchopneumonia of measles in the following form:

℞. Iodoformi.....gr. viiss
Olei morrhuæ.....3iiiss
Olei anisi.....gr. xxx
The initial dose is two teaspoonfuls per day, gradually increased up to the point of rejection by the stomach. Inhalations of a mixture of iodoform and turpentin are combined with the internal treatment. The great advantage claimed for this treatment is that the pulmonary symptoms and fever pass away without delay, even though the treatment has not been begun early.

Treatment of Baldness by Simple Aseptic Irritation.

Jacquet asserts that while all dermatologists agree that cutaneous irritation is the first principle in the treatment of baldness, says *The Practitioner*, there is no agreement as to the amount of irritation which will give the best result. Permanent irritation is certainly not as good as a slight irritation which can be renewed at will. By this manner one gets the advantage of the vascular dilatation, the hyperthermia, which favors the papillary vitality and avoids the ultimate slowing of the blood-stream, and the leucocytic migration and interstitial exudation is continued to the point of inflammation. Transitory hyperemia can best be caused by repeated slappings of the scalp with a brush made of good pig's bristles. The brush should be applied all over the bald area and along the margins of the hair. In a few seconds the scalp will become red and pulsating, a condition which will last for half an hour or more. The treatment should be repeated morning and night. In his own case, Jacquet caused the hair to grow again on a bald spot in his beard as large as a two-franc piece by making applications of the brush in the manner described, twice a day for four months. In other cases he has made more frequent applications five or six a day, and has obtained more rapid results. To keep the brush in an aseptic condition he plunges it each time before it is used into the following solution:

℞. Alcoholis.....3iv
Olei ricini.....3i
Hydrarg. chloridi corrosivi.....gr. ii
Extracti opoponacis
Tinct. cocco cact., āā.....gtt. xxx
M. The brush is shaken as dry as possible before it is applied. If a brush is used which is made of wires with a rubber back it will be very easy to keep it aseptic by this solution.

Catarrhal Jaundice.

The following prescriptions have been recommended by prominent physicians:

FOR A CHILD OF FIVE YEARS.

℞. Ammon. chloridi.....3iss
Elixir simp.....3iii
M. Sig. One teaspoonful in water three times a day after meals. —*Powell.*

℞. Sodii phosphatis.....3ss
M. Div. in partes vi. Sig. One before meals.
—*Bartholow.*

℞. Fellis bovis pur.....3i
Mangani sulph. exsic.....gr. xl
Resinæ podophylli.....gr. v
M. et ft. pil No. xx. Sig. One three times a day.
—*Da Costa.*

℞. Potassi acetatis.....3iii
Tinct. nucis vomicæ.....m. xlviii
Glycerini
Syr. rubi idæi, āā, q. s., ad.....3vi
M. Sig. Two teaspoonfuls in a tumblerful of water four times daily.
—*Hugo Engel.*

℞. Hydrarg. chlor mit.....gr. iii
Pulv. opii.....gr. ii
Bismuthi subnitratis.....3iiss
M. et fiant chart No. 6. Sig. One every three hours.
—*William Pepper.*

℞. Aloes socotrinæ
Cambogiæ
Hydrarg. chlor mit, āā.....gr. xv
Syrupi, q. s.
M. Div. in pil. No. x. Sig. One or two a week to keep bowels soluble. —*A. Gubler.*

CATARRHAL ICTERUS IN A CHILD.

℞. Pulv. digitalis
Pulv. scillæ āā.....gr. vi
Potassii nitratis.....gr. xii
Pulv. aromatici.....3i
M. et ft. chart. No. xii. Sig. One once or twice daily.
—*Dujardin-Beaumetz.*

Cough Mixture.

The following is a prescription of the late Sir Robert Christison:

℞. Syrupi scillæ.....3ii
Aquæ menthæ pip.....3ii
Tinct. opii ammoniat.....3ss
Tinct. lavandulæ comp.....3ss
Syrupi.....3i
M. Sig. Tablespoonful three or four times a day.

General Tonic.

℞. Strychninæ sulphatis.....gr. 1/60
Acidi phosphorici dil.....m. v
Ferri phosphatis.....gr. i
Quininæ bisulphatis.....gr. i
Glycerini.....3ss
Elixir aurantii, q. s., ad.....3iv
M. Ft. sol. Sig. Take before each meal.

Medicolegal.

Drug Insanity Still Defense.—By article 41 of the Penal Code of Texas, neither intoxication, nor temporary insanity of mind, produced by the voluntary recent use of ardent spirits, shall constitute any excuse for the commission of crime; but evidence of temporary insanity produced by such use of ardent spirits may be introduced by the defendant in any criminal prosecution in mitigation of the penalty attached to the offense for which he is being tried, and in cases of murder, for the purpose of determining the degree of murder of which the defendant may be guilty. Before that provision was passed, the courts held that such insanity excused unlawful acts. And the Court of Criminal Appeals of Texas now holds, on the second appeal of Edwards vs. State, that until the legislature makes a similar express exception of insanity produced by the recent use of cocain and morphin from the defenses which one accused of crime is authorized to make, a discrimination must be made between insanity produced by the voluntary recent use of such drugs and that from such use of intoxicating liquors, and that the former still remains a defense.

No Appeal from Order of Board of Health.—By statute, the town council of any town in Rhode Island may order the owner or occupant of any premises in such town to remove, at his own expense, any nuisance, source of filth, filth, or cause of sickness, found thereon, within twenty-four hours, or what it may deem a reasonable time after notice. A council, having the same powers as town councils, sitting as a board of health, declared certain premises to be a nuisance, which it ordered abated in a specified manner. One of the persons ordered to abate the nuisance took an appeal from the order to the common pleas division, where, upon a motion in behalf of the council, it was dismissed on the ground that no appeal lies from such an order. And this ruling, the Supreme Court of Rhode Island holds correct; Brown vs. District Council of Narragansett. It says that the statute neither provides for, nor contemplates an appeal from, such an order. The proceeding is evidently intended to be summary, and, in order to be effectual, it necessarily must be so; for, to permit a nuisance to exist until an appeal could be tried, together with such further proceedings in connection therewith as might be had, might seriously endanger the health and lives of an entire community. Suppose the smallpox, or some other contagious or infectious distemper, should break out in any house or family in a town, and the town council should order the infected persons to be confined in the house, or be removed to the hospital provided for such cases; could it be contended for a moment that an appeal would lie from such an order, and that the party against whom the order ran would have the right to a jury trial, with all the delays incident to such a proceeding? The mere statement of such a contention shows its utter absurdity. Prompt and vigorous action in cases affecting the health of the community is frequently of the very highest importance; and the statutes intended to promote the health and safety thereof should be so construed, if possible, as to make them immediately effective.

Construction of Contract to Cure Physician.—A physician, who had been suffering from a sore on his face, which he himself could not cure, called on another doctor, of whom he had heard as a specialist in several diseases, for the purpose of being treated. The specialist termed the affection lupus or lupus cancer. But whether it was, or not, is here immaterial. Taking the specialist's version of the contract entered into between them, it was that, in the event of a cure, the other should give him either a certificate of his skill and proficiency as a specialist in the treatment of the trouble from which his patient had suffered or $5000 in cash. A cure was effected, and the specialist had recourse to the law to enforce his demands. A trial resulted in a judgment for the defendant, the judge holding that the $5000 which the specialist testified was to be paid if the certificate was not given was a penalty, and therefore not recoverable. But, in so holding, the Supreme Court of Pennsylvania says that the court below must have lost sight of the controlling facts. The supreme court says that the defendant was himself a physician, seeking cure for his ailment at the hands of another. He was not the ordinary patient calling on a specialist, but a member himself of the medical profession, knowing, according to his own testimony, what his trouble was, and presumed to know what would be a proper charge for the services to be rendered—what he himself might ask. And, no matter what its judgment might be under different conditions, the supreme court declares, it can not approve the view that the $5000 was a penalty. So it holds that if the specialist is to be believed, it was an alternative mode of payment agreed on by the parties, capable of intelligently entering into a contract. In consequence of which, it reverses the judgment above mentioned, suggesting that the case, Burgoon vs. Johnson, ought to be remitted for another trial, that the court may instruct the jury that, if the specialist's testimony is to be believed, the defendant must pay the sum agreed on for the relief sought and found.

An Injured Person's Duty.—The appellate division, first department, Supreme Court of New York, says that the rule is not at all doubtful that the party who claims to have suffered damage by the wrongful act of another party is bound to use reasonable and proper efforts to make the damage as small as practicable, and that he is not entitled to recover for any damages which, by the use of such efforts, might have been avoided, because they are not to be regarded as the usual result of the tort. The question in every case is whether he has used such means as were at hand to reduce his damages as a reasonable prudent man would have used. It can not be said, as a matter of law, that he is bound to use any particular means, or to do any particular thing—unless that thing is one which would necessarily result in reducing the damage, and which a reasonable and prudent man would use. If, in any given case, it appears that the particular means which may be used to effect a cure would or might cause greater injury, or produce serious results, quite clearly the injured person would not be called on as a matter of law to take the chances of suffering more serious injury, or death, for the purpose of reducing the damage. While the person who inflicts the damage has the right to say that sure and safe means to diminish the evil results of the accident, if any such exist, must be used, yet that is the extent of his right. Whether further means should be resorted to is for the injured one to determine. In making that determination he has the right to consider the nature of the means used to effect a cure and a possible or probable effect on himself. He has to determine for himself whether he is to resort to those means in view of those considerations. In any given case it may be that the treatment which is given to him is not the best that could be devised, but he is not the less entitled to his damages on that account if, in taking that treatment, he has consulted such a physician as a reasonably prudent man would consult. The jury, in getting at the damages, is to say not only what they are, but whether the means used by the injured person to reduce the damages were such as an ordinarily prudent man would use. It can not say that he should or should not have obtained any particular kind of treatment. As to that he must himself be the julge. But when he has determined what treatment to take, it will yet be for the jury to say if, in making that determination, he used the means that a reasonably prudent man would take to cure himself of his injury. If he did, he is entitled to recover for his damages as they are presented to the jury. If he did not, and the jury can say that some other treatment would have brought about a cure, and that treatment was one that a reasonably prudent man would have submitted to, then it must say that he has not used the care which a reasonably prudent man would use to reduce the damages, and must take that into consideration in reaching a verdict. The law, the court continues, case of Blate vs. Third Avenue Railroad Company, lays down no hard and fast rule as to the duty of the injured person under such circumstance. Whether an operation for his ailment—here a rupture in the groin—which might endanger his life in any degree, must be submitted to, is a question which the law can not answer; nor does it lie in the mouth of a jury to say that he should or should not do any particular thing. The jury is concerned simply with the affairs presented to it at the trial, and whether the damages then appearing to exist are the natural and probable result of the injury, diminished by the efforts for a cure which a reasonably prudent man would have made.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, March 3.

1.—*Treatment of Typhoid Fever. Frank Billings.
2.—*Exploratory Laparotomy Under Local Anesthesia for Acute Abdominal Symptoms Occurring in the Course of Typhoid Fever. Harvey Cushing.
3.— Surgical Sequels of Typhoid Fever: Stricture of Esophagus: Ankylosis of Hip: Osteomyelitis of Ribs: Spondyloarthritis. Martin B. Tinker.
4.—*Ten Years' Experience in Treatment of Enteric Fever by Systematic Cold Bathing: Method of Brand Based on 1904 Cases. J. C. Wilson and J. L. Salinger.
5.—*Cultivation of Typhoid Bacillus from Rose Spots. Mark W. Richardson.
6.—*Ocular Complications of Typhoid Fever. G. E. de Schweinitz.
7.— Case of Suspected Typhoid Fever Shown to be Acute Catarrhal Otitis Media without Pain. Charles H. Burnett.
8.—*Value of Clinical Laboratory Methods in Diagnosis of Typhoid Fever. J. H. Musser.
9.—*Preventive Inoculation and Serumtherapy of Typhoid Fever. Joseph McFarland.
10.— Typhoid Fever in New Orleans. P. E Archinard.
11.—*Duty of Physician in Preventing Dissemination of Typhoid Fever. Thomas G. Ashton.
12.—*Diagnosis of Perforation in Typhoid Fever. Alexander McPhedran.
13.—*Examination of Urine for Typhoid Bacilli. Norman B. Gwyn.
14.— Three Cases of General Convulsions in Typhoid Fever. Thomas A. Claytor.
15.—*Water-Borne Diseases. E. G. Matson.
16.— Typhoid Fever Complicated by Meningitis. H. M. Fisher.
17.— Therapeutic Use of Water. George P. Sprague.
18.—*Observations on Gruber-Widal Reaction in Typhoid Fever. A. O. J. Kelly and Alexander A. Uhle.
19.— Nervous System in Typhoid Fever, with Report of Cases. Edward E. Mayer.
20.— Monocular Diplopia; Report of Case Preceding Diagnosis of Typhoid Fever. Edward B. Heckel.

Boston Medical and Surgical Journal, March 1.

21.—*Vivisection in Harvard Medical School: A Reply. James J. Putnam.
22.—*Stricture of Ureter a Possible Result of Laceration of Cervix Uteri, and Ureterovaginal Fistula a Result of Trachelorrhaphy. E. C. Dudley.
23.—*Relative Humidity of Our Houses in Winter. Robert De C. Ward.
24.—*Psychology and Heredity. (*Concluded.*) Robert MacDougall.
25.— Perinephritic Abscess Involving Appendix. Hugh Williams.

Medical News (N. Y.), March 3.

26.—*New and Improved Method of Entering the Abdominal Cavity in the Ileo-cecal Region, with Special Reference to Removal of Vermiform Appendix. George R. Fowler.
27.—*Again the Question of Cancer. Roswell Park.
28.—*Notes on Plague. (*Concluded.*) H. E. Deane.

New York Medical Journal, March 3.

29.—*Rheumatic Gout. B. C. Loveland.
30.—*Ossification of Uterus. C. Jeff Miller.
31.—*Partial Study of Child Presenting Multiple Deformities. George E. Elliott.
32.—*Typhoid Fever. Charles E. Page.
33.—*Some Therapeutic Notes. Philip Zenner.
34.— Thirty-two Cases of Typhoid Fever without a Death. J. C. Crist.
35.— Instance of Primary Hemorrhage Following Amygdalotomy. G. B. Hope.
36.—*Another Accommodation of the Eye. Norburne B. Jenkins.

Medical Record (N. Y.), March 3.

37.—*Spinal Fracture: Paraplegia. Robert Abbe.
38.—*Easy Method of Reducing Dislocations of Shoulder and Hip. Lewis A. Stimson.
39.—*Relative Merits of Operation for Extraction of Vesical Stone in the Male; with Observation on Suprapubic and Left Lateral Perineal Methods. Schuyler C. Graves.
40.—*Application of Electrostatic Wave Current. William B. Snow.
41.— Peanut in Air-Passages. R. C. Shultz.
42.— Vaccinella. E. V. Mock.
43.— Surgical Odds and Ends. William A. Payne.
44.— Hypodermoclysis in Typhoid Fever. O. O. Burgess.
45.— Auditory Canal as an Incubator. A. J. Holmquist.
46.— Floating Kidney Mistaken for an Appendicitis and Ovarian Tumor: Operation and Recovery. H. T. Miller.
47.— Congenital Hernia of Umbilical Cord. George Kessel.
48.— Case of Tetanus in which the Mouth was the Probable Source of Infection. E. K. Loveland.
49.— Unprecedented Case of Prolonged Anesthesia with Nitrous Oxid and Oxygen. S. Ormond Goldan.

Cincinnati Lancet-Clinic, March 3.

50.—*Tetanus. T. A. Mitchell.
51.—*Case of Alopecia Areata (Celsus). M. L. Heidingsfeld.
52.— Clinical Report of Some Obstetric Cases. Alfred Gaither.
53.— Heredity. Joseph Sager.

Medical Review (St. Louis, Mo.), March 3.

54.—*Is Appendicitis a Medical or a Surgical Disease? Robt. T. Morris.
55.— Operations on 459 Cases of Hernia in the Johns Hopkins Hospital, from June, 1889, to January, 1899. Jos. C. Bloodgood.

Pediatrics (N. Y.), February 15.

56.— Blood Diseases in Children, Clinical Contributions. John M. Taylor.
57.— Fractures. T. Halsted Myers.
58.— Report on Cause and Prevention of Infant Mortality. Ernest Wende.
59.— Imperfect Development of Right Pectoralis Major and Right Scapula. Henry Ling Taylor.

American Practitioner and News (Louisville, Ky.), January 1.

60.—*Tuberculosis of the Larynx. S. G. Dabney.
61.— Cases Reported to Louisville Clinical Society. Wm. H. Wathen.
62.— Traumatic Popliteal Aneurysm. J. T. Dunn.

Virginia Medical Semi-Monthly (Richmond), February 9.

63.— Criticisms on a City Gynecologist by a Country Doctor. J. G. Carpenter.
64.— Gangrene Complicating Typhoid Fever. Paul W. Howle.
65.—*Formaldehyde Disinfection. John E. Walsh.
66.—*Yaws and Smallpox. R. L. McMurran.
67.—*Treatment of Secondary Hemorrhage Associated with Serious Fracture or Amputation. Thos. H. Manley.

American Journal of Obstetrics, February.

68.—*Case of Multilocular Pseudomucinous Cyst-Adenoma of Right Ovary, Associated with Pronounced Symptoms of Diabetes. Henry D. Beyea.
69.— Large Parovarian Cyst Associated with Large Ovarian Cyst of Same Side: Twisted Pedicle. J. Ernest Stokes.
70.—*Vaginal Hysterectomy for Small Bleeding Uterine Myomata. George E. Shoemaker.
71.— Removal of Both Uterine Appendages During Pregnancy. J. Wesley Bovée.
72.—*Surgical and Mechanical Treatment of Dysmenorrhea. I. S. Stone.
73.— Fibroma of Ovary. Abram Brothers.
74.— Malignant Tumors of Kidneys in Children. J. Thomas Kelley, Jr.

Pennsylvania Medical Journal (Pittsburg), February.

75.— Presidential Address before Chester County Medical Society. Jacob Price.
76.— Memorial Address on the Late Dr. Charles S. Shaw. T. M. T. McKennan.
77.— Reminiscences of Expedition to Philippine Islands, May 25, 1898, to April 27, 1899. Henry Lippincott.
78.— Is the Licensing of Physicians a Benefit to the Community? M. V. Ball.
79.— Witch-Doctors and their Deceptions. John M. Bertolet.
80.— Some Considerations Relative to Neuralgia. Thos. S. Blair.
81.— Locations Suitable for Treatment of Consumption in Sanitaria in Pennsylvania. Guy Hinsdale.

Bulletin of Johns Hopkins Hospital (Baltimore), January.

82.—*Contributions to Surgery of the Bile-Passages, Especially of Common Bile-Duct. W. S. Halsted.
83.—*Early Exploratory Operations in Tuberculosis of Hip. Joseph C. Bloodgood.
84.— Gunshot Injuries by Weapons of Reduced Caliber. L. A. LaGarde.
85.— Reconstruction of a Glomerulus of the Human Kidney. William B. Johnston.
86.— Apparatus to Aid Introduction of a Catheter or Bougie. George Walker.

Railway Surgeon (Chicago), February 20.

87.— Duties of Railway Surgeons. C. H. Tidd.
88.— Deferred Shock. M. Bannister.
89.— Cerebral Cyst: Report of Case. Van Buren Knott.
90.— Injuries of Head. H. C. Young.

Buffalo (N. Y.) Medical Journal, March.

91.—*Again the Question of Cancer. Roswell Park.
92.— Water-Supply and Sewerage Problem of Buffalo. J. B. Coakley.
93.— Fad, Fact and Fancy in Medicine. Clarence King.
94.—*Desiccated Suprarenal Capsule in Acute Coryza. F. H. Millener.

Medical Times and Register (Philadelphia), February.

95.— Review of Milk Foods in Relation to the Dietetic and Hygienic Life and Growth of Infants, with Remarks. J. J. Caldwell.

Cleveland Medical Gazette, February.

96.—*Aseptic Gangrene. C. B. Parker.
97.— Medical Supervision of School Hygiene. L. K. Baker.
98.— Disinfection of School Rooms and Public Conveyances after Exposure to Infectious Disease. Frank Warner.
99.— Report of Case of Septicemia Followed by Pyemia. O. B. Campbell.

Canada Lancet (Toronto), February.

100.— Preventive Medicine. D. Gilbert Gordon.
101.— Case of Male Pseudo-Hermaphroditism. Ernest Hall.

Dominion Medical Monthly (Toronto), February.

102.—*Treatment of Inebriety. J. M. A. Dunsmore.

Alabama Medical and Surgical Age (Birmingham), February.

103.— Annual Address before Jefferson County Medical Society. Geo. S. Brown.
104.— Treatment of Fractures. E. P. Lacey.
105.— Case Reported Before Montgomery County Medical and Surgical Society, Jan. 13, 1900. I. L. Watkins.
106.— Vaccination. W. H. Wilder.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), February.

107.—*Rôle of Pus Organisms in Production of Skin Diseases. George T. Elliott.
108.— Some Notes on Prostatitis and Seminal Vesiculitis. Charles H. Chetwood.
109.— Classification of Tumors. B. H. Buxton.

Kansas City Medical Record, February.

110.— Constipation and Its Treatment. A. A. Freyman.
111.— Sleep. E. E. Gilmore.
112.— Treatment of Remittent Fever, with Reports of Cases. Milton P. Creel.

Post-Graduate (N. Y.), February.

113.—Simple **Fractures about Elbow-Joint and Their Treatment.** Samuel Lloyd.
114.—Animal **Parasites Affecting the Genito-Urinary System.** Eugene Fuller.
115.—*Strangulated Hernia: A Few Points on Diagnosis and Treatment. W. B. DeGarmo.
116.—*Fecal Fistulæ. Robert T. Morris.
117.—*Practice of Surgery on Children. Frank Torek.
118.—Case of Suprapubic and Submucous Prostatectomy. Forbes Hawkes.
119.—Chronic Diarrhea Due to Rectal Disease. Samuel G. Gant.
120.—*Hockey-Stick Incision, a Typical Mode of Entering the Abdominal Cavity in Certain Complicated Cases of Appendicitis. Willy Meyer.
121.—Acute Empyema. Frederic N. Wilson.
122.—Diagnosis and Treatment of Fracture Involving Lower End of Humerus. Arthur H. Cilley.
123.—Surgical Affections of Abdomen in Childhood. Fred T. Zabriskie.
124.—Exhibition of New Rectal Instruments. Samuel G. Gant.
125.—Two New Appliances Used in Mechanical Treatment of Ankle-Joint Affections. Daniel W. Marston.
126.—Brief Résumé of the Surgical Service of the Babies' Ward for 1898-1899. Samuel Lloyd.

Journal of Medicine and Science (Portland, Me.), February.

127.—Materia Medica, Ancient and Modern. E. S. Everett.
128.—Materia Medica in the Education of Pharmacists of To-day. R. W. Greenleaf.
129.—Maine Pharmacy Law, and its Requirements of Our Apothecaries. D. W. Heseltine.
130.—What is Expected of the Apothecary by Physicians? F. L. Dixon.
131.—Co-operation of Physician and Pharmacist. Edward A. Hay.

Interstate Medical Journal (St. Louis, Mo.), February.

132.—Clinic on Diseases of Children. Augustus Caillé.
133.—Clinical Notes on Cancer and other Pathological Conditions of Male Sexual Organs. Thomas H. Manley.
134.—*Bacteriology of Pneumonia. R. B. H. Gradwohl.
135.—Treatment of Chronic Glaucoma Simplex by Galvanization of Cervical Sympathetic. Dr. Allard.

Regular Medical Visitor (St. Louis, Mo.), February.

136.—Study of My Last 100 Peritoneal Sections, with Special Reference to Mortality. Emory Lanphear.
137.—"Christian Science." Harold G. Gould.
138.—Rheumatism and Gout. A. T. Quinn.

American Journal of Surgery and Gynecology (St. Louis, Mo.), February.

139.—*Reflex Symptoms of Retroversion of the Uterus. A. Lapthorn Smith.
140.—*Prolapse of Rectum in Children. Charles G. Cumston.
141.—*Brief Note on Some of Those Grave Abdominal Lesions which often Defy Diagnosis. Thomas H. Manley.
142.—Large Uterine Myoma Removed by Trachelotomy and Morcellation. H. J. Garrigues.
143.—Three Successful Cases of Tracheotomy of Four Operated on from November, 1898, to March, 1899. Charles C. Partridge.
144.—Venereal Warts. William S. Gottheil.
145.—*Urethral Asepsis. Ferd C. Valentine.
146.—Loose Kidney: Hare Lip. Robert T. Morris.

AMERICAN.

1.—This paper appeared in THE JOURNAL of February 24.

2. **Local Anesthesia in Typhoid Perforation.**—Cushing reports several cases of operation under cocain anesthesia, in cases of suspected typhoid perforation. He thinks such an operation can, under favorable conditions, be done without exposing the patient to danger. Other conditions which might closely simulate perforation and lead to such an exploration are iliac thrombophlebitis, pulmonary complications when attended by diaphragmatic pleurisy, appendicitis in the non-typhoidal, suppurating mesenteric glands, cholecystitis and intestinal hemorrhage.

4. **Brand Treatment of Typhoid.**—From an analysis of 1904 cases Wilson and Salinger find that the treatment by cold baths does not avert nor diminish the frequency of hemorrhage, but does that of perforation. It diminishes the danger of complication, especially in the respiratory and circulatory tracts, and it is apparently attended by a somewhat increased frequency of relapse, but the statistics are rather unsatisfactory in this regard, and it is also attended by albuminuria in a large percentage of cases. It has no influence on increasing the danger of otitis media. The modifications of the method originally formulated, adopted as a result of experience, are: 1. Administration of purgatives—calomel—early in the attack. 2. External applications, cold compresses, and occasionally turpentin stupes. 3. Medication in special cases. 4. The temperature at which the bath is administered. Whenever the temperature reaches 101.4, three hours after the bath, it is repeated. 5. Continuation of the bath during convalescence, giving one or two plunges a day during defervescence, and a plunge every one or two days for a short time after. The tub need not be kept close to the bed, and the milder cases help themselves in and out. 7. The sooner the treatment is begun the better.

5.—See editorial in THE JOURNAL of March 3, p. 566.

6. **Ocular Complications in Typhoid.**—De Schweinitz reviews the various ocular complications that may follow typhoid, including conjunctivitis, neuritis, choroiditis, cataracts, retinal hemorrhages, optic nerve atrophy, muscular paralysis, thrombosis, asthenopia, etc.

8.—See abstract in THE JOURNAL of February 10, p. 362.

9. **Serumtherapy of Typhoid.**—McFarland reviews the literature of typhoid serumtherapy with rather discouraging conclusions, but says, let us continue our experiments and hope for success.

11.—See abstract in THE JOURNAL of February 10, p. 363.

12. **Perforation in Typhoid.**—McPhedran reports two cases of typhoid perforation occurring without the ordinary phenomena, and emphasizes the fact that this accident may occur without the fulminant symptoms we are accustomed to associate with it. Persistent pain is probably the most constant sign, but all may be mistaken in some cases, and they may be so masked as to escape observation, the patient not even considering himself seriously ill.

13. **Typhoid Bacillus in Urine.**—Gwyn's experience covers ten cases, and he thinks that while the examination is advisable, it may not be a very important method of diagnosing, occurring as it does in only 20 to 30 per cent. of cases. He also suggests that the safest course is disinfection of all typhoidal urine.

15. **Water-Borne Diseases.**—Matson, after discussing the conditions at Pittsburg, and the methods of water purification, concludes from a study of the subject that the dangers of typhoid infection from the public water-supply are less than from wells, and it is almost impossible to in all cases detect the typhoid bacillus in places in which they must exist.

18. **Gruber-Widal Reaction in Typhoid.**—The statistics of this test in the German Hospital, Philadelphia, are given by Uhle and discussed by Kelly, who calls attention to a number of interesting points. He thinks the necessity of knowing the degree of dilution of the blood serum is great, and the higher the dilution that yields a positive reaction the more certainly is the case typhoidal, while when it is present very early in a high dilution great diagnostic import may be ascribed to the test.

21. **Vivisection in Harvard.**—Putnam replies to the criticisms of Leffingwell. In regard to vivisection, he shows how that writer has misrepresented and misunderstood the facts.

22. **Stricture of Ureter from Cervical Laceration.**—Dudley reports a case of stricture of the ureter following laceration of the cervix with ureterovaginal fistula following the operation of trachelorrhaphy, which was operated on by producing a vesicovaginal fistula, in the edge of which the ureter opened, and which was afterward closed in the ordinary way, leaving the parts in all their natural relations. He asks, in view of the fact that the ureter is often drawn close to the uterus by cicatricial contraction, why is it not more frequently injured by operation on the cervix, and answers that the sutures of trachelorrhaphy are not usually produced deeply in the vaginal wall or more such cases would be reported. In view of the facts given, he submits the following: 1. In all cases of extensive laceration of the cervix uteri, in which the localized pain is not accounted for by palpable lesions, should we not pass a series of graduated ureteral bougies on the side corresponding to the laceration? This would be for the purpose of measuring the caliber of the ureter and of locating a possible stricture. The principles of examination would be similar to those of measuring the caliber of the male urethra in the diagnosis of stricture. 2. In a case of ureteral stricture due to laceration of the cervix uteri, or to any other cause, and situated within the range of a vaginal operation, would not one be warranted in opening the bladder and then proceeding, as in the case reported, to establish a new ureteral orifice? In other words, should not that condition, which in this case was the result of an accident, be deliberately reproduced in similar ones? His answers to these questions would be in the affirmative.

23. **Indoor Humidity in Winter.**—Ward has made examination of humidity in winter in residences, and compares it

to desert atmosphere. He thinks the present methods of heating our houses are wretchedly inadequate from the point of view of supplying moisture.

24. **Psychology and Heredity.**—MacDougall's article, completed, dwells especially on acquired characters by education and environment, and the social rather than the physical heredity.

26. **Laparotomy.**—Fowler describes his method of entering the abdomen and pelvis in the ileocecal region, by making a skin incision from the upper rounded prominence of the anterior superior spine, horizontally to the outer edge of the rectus muscle, then curving downward parallel to this edge 2½ inches or more as required. The triangular flap is then reflected downward by traction, the aponeurosis of the external oblique is exposed, then divided in the direction of its fibers to the full length of its exposure, and the sheath of the rectus exposed and also opened. The rectus muscle and the underlying deep epigastric artery and veins are now drawn to the median line, the outer edge of the aponeurosis being retracted the other way, exposing a space of four inches in its transverse diameter. The remaining structures of the abdominal wall are considered as one layer, and the transverse incision is carried directly through these in the direction of the fibers of the internal oblique and transversalis fibers, into the peritoneal cavity. Retraction of the edges of these incisions will be found to give free and ready access to the region of the cecum. Then closing the wound, suture the transverse incision by a running catgut suture including all of its layers. In closing the external oblique aponeurosis care must be taken to include in the suture the incised edge of the sheath of the rectus muscle, avoiding the muscular structure itself. For this purpose he employs kangaroo tendon. Finally, the skin wound is closed. The advantages claimed are: 1. Ready access is gained to the ileocecal region, and ample room secured for all necessary manipulation in the class of cases for which it is designed. 2. Weakening of the abdominal wall and the liability to surgical hernia are reduced to the minimum by incising the important musculo-aponeurotic structures in such a manner as to secure immediate, firm and permanent union; and by avoiding injury to the vascular and nerve supply of the parts involved in the incisions.

27.—This paper also appears elsewhere, and is abstracted below, ¶ 91.

28. **Notes on Plague.**—Deane says that he treated his last nineteen consecutive cases, with cobra venom in 1/500 to 1/1000 solution, with six deaths, which he thinks is a better result than has been obtained with other serum treatment. He also uses apis, m. v, every hour. The latter part of his paper is given to the subject of prevention, and he thinks more can be done by proper hygienic measures than any other way.

29. **Rheumatic Gout.**—Under this head Loveland includes rheumatoid arthritis, arthritis deformans, chronic inflammatory rheumatism, etc. He describes the condition, illustrating it with skiagrams, and reports two cases. He believes in a regulated diet, avoiding red meats, starchy vegetables, tea, coffee, sugar, stimulants, etc., and advises exercise in the open air, massage, free drinking of water, warm and Turkish baths, and for medicine, salicylate of sodium, which can be combined with benzoate of sodium, 5 grains each in hot water three times a day, continued over a considerable period. In this formula it does not disorder the stomach. He thinks that complete change of habits of life, with the above treatment, will produce benefits in many cases and complete permanent cure in some.

30.—See THE JOURNAL of Dec. 16, 1899, p. 1550.

31. **Deformed Child.**—Elliott's paper describes findings in a child who died at the age of 7, which included muscular, bony and articular abnormalities. He thinks the clinical picture points to a prenatal origin of these as a possible result of the action of toxins, for example, *in utero*.

32. **Typhoid Fever.**—Page's paper criticises the common, heretofore the popular, treatment of typhoid fever, and advocates the Brand method as the most successful.

33. **Therapeutic Notes.**—The first subject mentioned by Zenner is apomorphin in tachycardia, and he reports cases in which this was used. He found that in these the only remedy which relieved the condition thoroughly was apomorphin in small doses, given hypodermically. The quantity given varied from .1 to .3 gr. Cacodylic acid, which he has employed in anemia, is next mentioned, its use being first suggested by its employment in skin diseases. The remedy was given by the injection of .6 to .75 gr.—m. xii to xv of a 5 per cent solution—daily or every second day. The improvement was so rapid that he thinks it can not be attributed to anything else; the hypodermic injection of this drug is as painless as that of morphia, and it seems to be otherwise harmless. He believes that the cases reported justify the further use of cacodylic acid where arsenic is indicated.

36. **Accommodation of the Eye.**—The special form of accommodation of the eye described by Jenkins is that to badly fitting glasses. He gives illustrations of its occurrence. This "accommodation" is the chief stock in trade of the wandering spectacle expert, and is the sheet-anchor of the unscientific refraction methods.

37. **Spinal Fracture.**—Four cases of spinal fractures are reported three being of broken necks from diving, in all of which comparatively good results were obtained; 1 was a bullet wound received during the late war, with approximate recovery. Abbé's method of laminectomy, which he claims is the simplest and most bloodless of all and gives perfect access to the cord, is described: A straight incision six inches long is made a little to one side of the spinous processes, the knife passing between the muscle and the spines directly down to the laminæ; the muscles are then easily separated by blunt dissection from the laminæ on one side, and the tips of the spinous processes, with the interspinous ligament unbroken, are separated by cutting-pliers. These, with the opposite side muscle, are then easily dissected in the opposite direction, the muscles being very loosely attached to the laminæ, and the method comparatively bloodless. A rongeur is now used to gnaw away the base of the spines and as many laminæ as are required to expose the cord. He says, as regards the symptoms, that if sensation and motion and the knee-jerk are lost, the outlook is almost hopeless, while partial loss of sensation or motion is more encouraging. Restoration in any case may not be complete. In cervical fracture the fifth vertebral body is most often injured, and the phrenic nerve involved so that pulmonary edema and hypostatic pneumonia occur a few days after the accident. This may be overcome by nitroglycerin internally, and frequent change of posture. Intestinal fermentation with temperature disturbance may occur, but is easily relieved by calomel. Regeneration of pulpified cord is impossible; recovery is probably always due to absorption of blood or inflammatory exudate and relief of pressure. The persistence of pressure symptoms justifies operation as much as in cases of depressed fracture of the skull. Laminectomy should be done as promptly as possible, and in favorable cases may be under cocain anesthesia.

38. **Shoulder and Hip Dislocations.**—Stimson describes and illustrates a new method of reducing shoulder and hip dislocations, by the use of steady, moderate vertical traction, with the trunk or body extended in the horizontal position. In case of the leg, the thigh is allowed to hang vertically, while the surgeon grasping the ankle holds the leg horizontally and gently moves it from side to side. In two cases where this method failed reduction was accomplished by traction midway between right-angle flexion and full extension.

39. **Stones in the Bladder.**—Graves reviews the different methods of surgical treatment of calculus, and gives the improvements in detail, on high and low operation that have been suggested. Among these he mentions the transverse incision just above the pubis, which he thinks a great advance, and the Bristow method consisting in distending the bladder with air instead of water. Harrington's method of intraperitoneal cystotomy is also mentioned as advisable in some cases. The modification by Senn, of performing the operation in two sittings is modified by the author by using the cautery with nitrate of silver so as to reduce it to one operation. The question of dilation of the vesical outlet in the lateral operation is discussed, and the author gives cases where it has been done by him both in child and adult with excellent results. In concluding his paper he says that he does not consider it bad surgery, even with the evidence of litholapaxy

statistics, to recommend for the aged, for those who have enlarged, inflamed, and lobulated prostates, the modified *sectio alta*, and for the middle-aged and the young, the modified *sectio lateralis*.

40. **Electrostatic Wave Current.**—Snow has employed this method, introduced by W. J. Morton, with great advantage in cases of neuritis, insomnia, arthritis, paralysis, and migraine. He gives the following directions as to the methods of its employment: 1. Ground one pole of the machine to a gas or water pipe. A good ground is imperative, and the matter of polarity, as far as known, is immaterial. 2. Always treat the patient on the insulated platform. 3. Always employ metal electrodes—lead or block tin are best, because pliable—and see that no material is between the electrode and the patient's skin. 4. Connect the patient by one rheophore, or more if several joints or parts are being treated at one time, to the side of the machine not grounded. 5. Close or nearly close the prime conductors, and start the machine. 6. Gradually separate the prime conductor until there is commencing discomfort from muscular contraction, or a burning sensation, which will disappear as soon as the skin becomes moist, or pain if applied over a neuritis. After short intervals the spark gap may be increased from time to time, to get the best results. 7. In treating a neuritis, do not make the electrode too large, or the current will be too much diffused to produce the best result. 8. Allow no object that would draw off the current to come near the platform, and be careful that no one touches the patient.

50. **Tetanus.**—Mitchell reports four cases of tetanus with one recovery. He relies mostly on chloral for treatment, together with sustaining, liquid diet and open secretory function.

51.—See abstract in THE JOURNAL of January 20, p. 165.

54. **Appendicitis.**—Morris takes issue with Zahorsky in regard to the proper medical treatment for appendicitis. He thinks the European statistics of this disease are outrageous, and their opinions not to be quoted.

60. **Tuberculosis of Larynx.**—Dabney briefly reports three cases of laryngeal tuberculosis, and discusses the symptoms and treatment. He sums up his conclusions as follows: 1. Tuberculosis of the larynx before any manifest involvement of the lungs is not a great rarity. 2. In many the diagnosis can be almost positively made from the local appearances alone. 3. The prognosis, while exceedingly grave, is not so desperate as was formerly taught. 4. In addition to the medicinal, hygienic, and climatic treatment, local measures often do much to increase comfort and prolong life, and occasionally cure the local lesion. 5. The first step in local treatment is to first thoroughly cleanse the surface, for which Seiler's solution in an atomizer is fairly effective. 6. Where there is ulceration, the cleansing should be followed by insufflation of orthoform and iodoform or nosophen. If pain persists, 5 per cent. solution of eucain B should be sprayed into the larynx before eating. A 10 to 12 per cent. solution of menthol in oil may also be used with benefit. 7. Where the ulcer is accessible and the conditions permit, lactic acid should be rubbed into it, either with or without previous currettage.

65. **Formaldehyde Disinfection.**—After describing the various methods of formaldehyde disinfection, Walsh reports some experiments made by him with saturated sheets for room disinfection, showing that while formaldehyde does not penetrate heavy articles, it destroys organisms on the surface and disinfects from three to five thicknesses of blankets, especially where the amount of formaldehyde used is 500 c.c. to 1000 cubic feet of space. No especial precautions were taken about the room, except to close with ordinary tightness; there was no "chinking" of windows or doors with cotton or paper. The advantage of the method is that it can be carried out by any one and in a very short time.

66. **Yaws and Smallpox.**—McMurran describes yaws and reports cases where he suspects this disease to have existed. He makes the suggestion that some cases have recently been called smallpox when it was really this disorder.

67. **Secondary Hemorrhage.**—The methods for arresting secondary hemorrhage are noticed by Manley. He considers that compression and ligature are ineffective, but the cautery is the most powerful and prompt hemostatic known. It is followed by such intense inflammation and general destruction that it can not be used on large vessels nor indiscriminately, nor without every precaution being used against excessive damage of the healthy parts. The styptic properties of hot water may seem to have the utility, but according to him it should be discarded entirely, as while it coagulates and parboils the tissues it will not be tolerated by the exposed medullo-osseous tissues nor the cellular elements of the divided nerve-trunks. He describes the constitutional measures for the general conditions of secondary hemorrhage and rather doubts the efficacy of saline solutions, which, however, he says can be used to advantage. Alcoholic stimulants are the safest and most reliable in acute anemia, and should be given freely. The patient under these circumstances shows a singular tolerance for alcohol. In conclusion he remarks on the necessity of avoiding useless loss of blood in operation. He thinks that hemostasis at the time of operation goes far to prevent the secondary hemorrhage. Frequently the wounds are closed before all bleeding is stopped, and we may depend too largely on packing rather than ligation. In all cases vigilance is necessary for the first twenty-four hours after operation.

68. **Ovarian Cyst-Adenoma and Diabetes.**—After reporting at length a case of pseudomucinous cyst-adenoma of the ovary, complicated with diabetes, which was relieved by operation, and detailing also one reported by Croom, Beyea studies the conditions at length and deduces the following: 1. In rare instances where the disease of the female internal genital organs is associated with diabetic symptoms, and a large quantity of sugar is found in the urine, the diabetic symptoms and sugar in the urine seem to be dependent on the disease of the genital organs. 2. In other cases the excretion of a large amount of sugar by the kidneys without diabetic symptoms seems to be dependent also on the disease of the female internal genital organs. 3. Since, in every case of any class or classes of disease of the female internal genital organs, no such association has been observed, it is probable that in order to produce the diabetic symptoms, and excretion of sugar by the kidneys, there may be present, in addition to the disease of the genital organs which we are able to recognize, some special and separate lesions or abnormal secretions of these organs, or some affection of others, or some special predisposing condition of the body. 4. Such cases of diabetes as are here described, and those cases to which Tait and Lecorche have given the name "climacteric diabetes," may be cured by the induction of the climacterium, the removal of gross disease, which allows the completion of the climacteric change, or by the progress of the normal climacterium. Finally, the subject of association of disease of the female internal genital organs with glycosuria and diabetes is worthy of serious consideration, and there is sufficient evidence of an etiologic relationship between the two diseases to stimulate careful observation of cases of this class and experimentation aiming to determine the question of cause and effect.

70. **Small Bleeding Myomata.**—While admitting that uterine fibromata should be let alone when small and not troublesome, Shoemaker calls attention to those small growths which are exceedingly troublesome from hemorrhage that requires attention. Some of these have exhausted the resources of medication; electricity may even fail, and while curetting may do good, it can not reach the whole condition. Ligation of the uterine arteries may be successful. Abdominal hysterectomy is best for tumors reaching out of the true pelvis, for those that are distinctly intraligamentary and displace the ureters, for patients who have appendicitis, and where there is reason to suspect suppurative disease of the adnexa or intestinal adhesions. Enucleation by morcellement is a well-known operation, but is only adapted to uncomplicated cases. Vaginal hysterectomy is considered and technique of the methods described; the mortality in his hands has thus far been *nil*.

72. **Treatment of Dysmenorrhea.**—The conclusions of Stone's article are: 1. A large majority of cases of dysmenorrhea occur in neurasthenic or neurotic women, and operative treatment alone will not effect a cure. 2. Dysmenorrhea due to flexion is not cured by the use of the intrauterine stem, for at best the uterus is kept straight only while the stem is in position. 3. The practice of divulsing the uteri of virgins under 21 years of age, or before maturity and complete de-

velopment of the organs, is generally to be condemned. 4. Dysmenorrhea due to actual obstruction or stenosis is rare, and if present we frequently find that one or more ineffective operations have been done. 5. Dudley's modification of Sim's operation appears to promise good results, as it insures a large cervical canal which can not be closed by cicatricial contraction. But this operation is only indicated in cases of stricture—stenosis—of the canal, or else in those rare ones where an anteflexion of high degree prevents the escape of the menstrual flow.

82. **Surgery of Bile Passages.**—Halsted enumerates a number of cases, especially of surgery of the common duct.

83. **Hip-Joint Tuberculosis.**—In this preliminary report Bloodgood describes several cases of exploratory operations of the hip-joint, which demonstrate the value of this procedure. The object of early operation is to take the disease in its early stage, relieving the tension of the distended capsule, and to cure the disorder by disinfection and drainage, also exploration to find the tubercular disease of the bone. It is too early to judge of the results, excepting in one case where the patient has a perfect functionally active joint one year after operation. One must be careful to bear in mind the possibility of disseminating the tubercle bacilli. The method of operation is described in full. The most important anatomic point is to bear in mind the deep external circumflex vessels. It may not always be necessary to ligate these, unless they are in the way. He says the joint can be exposed easily without dividing the muscle by separating the tensor vaginæ femoris and the glutei muscles on the outer side and the sartorius and rectus on the inner—medial. He considers it a better plan to lengthen the incision rather than to make a cross-cut of the muscles. The separation of the muscles leaves a cleaner and a less ragged wound, and perhaps detracts much from the danger, not only of pyogenic infection but of tubercular dissemination. Through this wound, by separating the muscles, one can clearly see the capsule of the joint and the trochanter and upper portion of the shaft of the femur. On dividing the capsule one can explore the neck and head of the femur with great ease. In these operations the head has not been dislocated from the acetabular cavity, but if one found the round ligaments destroyed, with extensive disease of the head and acetabular cavity, the head of the bone could easily be temporarily displaced to allow a better treatment of the head itself and the acetabular cavity, after which it could be replaced. "This course was followed in a recent case by Professor Halsted."

91. **Cancer.**—Park reviews the facts in regard to cancer, as shown in the literature, and gives points in favor of its parasitic origin, giving also some of the results obtained in the New York State Laboratory. This paper is also printed elsewhere, as noted this week, title 27.

94. **Suprarenal Capsule in Coryza.**—Millener advises the use of suprarenal capsule as a treatment for the ordinary coryza, using aqueous extract prepared by dissolving 20 grains of the dried extract in a half ounce of water, and filtering through cotton.

96. **Aseptic Gangrene.**—The subject of the throwing off of dead tissue is noticed by Barker, and he says that with proper aseptic treatment and with antiseptics it can be entirely aseptic.

102.—See abstract in THE JOURNAL of February 24, p. 496.

107. **Pus Organisms in Skin Disease.**—Elliot distinguishes between true pus, which is an exudate rich in leucocytes and containing in its fluid portion notable quantities of peptone, and pseudo-pus, which is not a leucocyte exudate, but is due to the proliferation of the fixed cells, and has not the peptonizing qualities of the true. He reviews various conditions of skin disorders accompanied by suppuration, and concludes that while it can not be denied that micro-organisms are active, many other factors of external and internal sources must be allowed as existing in producing what may or may not be true pus, i. e., clinically, suppuration exists, but it is not possible to determine whether it is true or pseudo-pus. The causal connection between suppurative lesions and pyogenic organisms is, with few exceptions, more the result of an *a priori* and analogic reasoning than of actual demonstration. It is more the outcome of the fact that their presence can produce pus than proof that they do so in any particular instance. He thinks more experimental investigation is required before we can be in a position to state the actual nature of suppuration in every case.

115. **Strangulated Hernia.**—DeGarmo thinks that it would be in the interest of humanity if we could convince the profession that there is no medical side to the treatment of strangulated hernia, since medicine means delay and delay means death. As regards taxis, he advises traction on the tumor while the canal is being manipulated. If you push upward on the strangulated hernia, you simply push it over the edge of the ring into the abdominal wall, but by traction you lengthen out the mass that is blockading the canal, favoring the effects that you produce by compression. Anesthetics are only advisable before operation for reducing the hernia. The operation for strangulated hernia is described in detail, and is justifiable as long as life remains. In cases of extreme shock it is better to operate under cocain than general anesthesia.

116. **Fecal Fistula.**—The treatment of fecal fistula should ordinarily be conservative or radical, according to the wishes of the patient. The former consists chiefly in skilful neglect; the tendency to scar contraction can be counted on. According to Morris, most cases are dependent on the surgeon's interference and endeavor to hasten the process of repair. Perhaps the most common faulty treatment is cleansing with hydrogen dioxid. Ordinarily operation is called for when concretion or an unabsorbed ligature lies at the bottom of the tract, or in those in whom so much of the bowel is sloughed away that the resulting fistula has a large lumen. It is sometimes advisable to operate for the comfort of the patient when recovery is slow. The operation is a simple one. The first step consists in preparing for an aseptic operation. The lumen of the fistula is plugged with gauze, and the incision through the skin includes the entire scar, so that the patient can have the benefit of removal of the scar as well as the fistula. The first landmark in the incision is the external oblique aponeurosis; the last is a part of the peritoneum free from adhesions. The peritoneal cavity having been opened, adhesions are separated and the part of the bowel to which the wall of the fistula and the scar are attached is exposed. The wall of the fistula is ligated close to the bowel very much as we ligate an appendix. The peritoneum of the bowel is well scarified at the part that is to be included in sutures; the wall of the fistula and the scar are severed in one mass, and the scarified portion of the bowel is closed by Lembert sutures, or by a puckering string suture. The peritoneum of the abdominal wall is then closed nicely with catgut. The internal oblique and transversalis muscles are accurately approximated by means of another suture. The external oblique aponeurosis requires a perfect suture because its line of traction is different from that of the deeper muscles. A subcuticular one closes the skin wound, and the patient recovers easily without a fistula and without a disfiguring cicatrix.

117. **Surgery in Children.**—Torek calls attention to the fundamental differences between children and adults, as to anatomic structures and in the great vascularity of the bone tissues favoring infection. The difference in metabolic changes required in the process of growth is also mentioned. The well-nourished child bears infection comparatively well, but in cases otherwise the opposite is true. The patient's nutrition bears an important part in the cases and, in many instances, the question of dietetic measures versus operation arises. In tuberculous glands of the neck, for example, and other tuberculous infections in children, intelligent conservative attention to nutrition will go much farther than with adults. The surgical diseases peculiar to children, besides those mentioned above, are deformities secondary to anterior poliomyelitis and spastic spinal paralysis and some frequent forms of disease due to imperfect development. After remarking in regard to the methods of inspection, he insists on the importance of careful attention being given to the proportionate dose of anesthetics for a child, which he says is frequently neglected. With chloroform especially great care must be taken to keep the narcotization equal throughout its administration. Before anesthesia, in any case the child should be examined for loose teeth that might drop out; in other respects, precautions

are the same as in adults. Local anesthesia should be employed when the child is able to submit to reasoning on the subject. The author does not believe in long fasting before operation; five hours is fully sufficient. Special care should be taken against chilling the patient, and the duration of the operation should be as short as is compatible with good work. The amount of hemorrhage is to be considered in relation to the age of the child, loss of blood that would be trivial with an older person being very serious with an infant. As regards shock, he does not accept the doctrine that children bear it badly. Antiseptics should be avoided, and aseptic treatment used as fully as possible, and particular care should be taken in the application of bandages, which is sometimes difficult on the soft and compressible muscles of restless children. The rigid plaster-of-Paris splint is often necessary, when it is not in adults, but it should be thin and light, and easily removed.

120.—This paper appeared in THE JOURNAL of February 17.

134. **Bacteriology of Pneumonia.**—From a study of the subject, and its literature, Gradwohl concludes that the micrococcus lanceolatus is responsible for 75 per cent. of the cases of lobar pneumonia, and that the bacillus of Friedlander has to be regarded more in the light of an accidental contamination. Suitable conditions must prevail before the pneumococcus can excite pneumonia; in other words, there must be a depraved systemic condition. It is a resident in nearly all normal lungs, and only requires a lowered resistance in these to set up pneumonia. While ubiquitous in the body, it is especially active when brought in contact with serous surfaces. It is not the cause of epidemic cerebrospinal fever, the diplococcus intracellularis being there the specific agent.

139. **Reflex Symptoms and Retroversion.**—The symptoms enumerated by Smith are due to retroversion of the uterus, or bladder trouble, to pressure, rectal disorders, such as tenesmus, etc., cerebral symptoms like vomiting, disorders of intelligence, changes of disposition. He mentions cases of melancholia and of "nervous attacks" relieved by operation, also dyspareunia and sterility, dysmenorrhea, menorrhagia and miscarriages. He advises every family physician to thoroughly satisfy himself by examination when these symptoms appear, to be sure that the uterus may not be retroverted.

140. **Rectal Prolapse in Children.**—The operations for rectal prolapse are described by Cumston. He gives the different procedures of the authors, and thinks that the use of clamps for the production of artificial anemia is dangerous and useless, as there may be a hernia of the small intestine, and this can never be diagnosed until the cul-de-sac has been opened. He thinks the best method is that of Mikulicz, which consists in cutting the anterior, outer intestinal tube through, layer by layer, catching up and ligating bleeding vessels, until the pouch has been opened and examined for its contents. It is then closed by a running suture and the anterior, internal tube is cut through little by little until it is opened and both are united by deep silk sutures to the entire length of the incision. The posterior portion is treated in the same way, and the resection is completed. He advises that in acute types of prolapsus of the recti and invagination of the colon, which are irreducible and which show serious general symptoms, operation should be done at once. In all cases of chronic prolapses that do not directly threaten life, it should also be performed to prevent future trouble. The earlier the resection is done, the better, as after the complication has occurred the general condition has deteriorated. In all chronic reducible cases which can not be cured by milder therapeutic measures, resection is indicated. If linear cauterization is tried without result it had better not be repeated, as cicatrical stenosis will certainly occur.

141.—This paper, here printed as an original, has appeared elsewhere, and was abstracted in THE JOURNAL of February 24, p. 483.

145. **Urethral Asepsis.**—Valentine recapitulates the points in this clinical lecture in the following: 1. Urethral asepsis is an ideal as yet beyond our reach. 2. Every effort should be made to approach it as closely as possible before instrumentation. 3. No urethral or intravesical instrumentation is complete without subsequent irrigation of the region invaded. 4. Even the slightest invasion of the urethra, by an ever-so-gently-conducted instrument, is a menace to the patient's life, unless all precautions against "catheter-fever" are employed. It is nearly seven years since he first suggested and employed post-operative irrigation in dispensary, hospital and private practice, and with a daily average of thirty cases, experience therewith makes it seem that urethral fever—"catheter fever"—is an entirely avoidable and unnecessary complication.

FOREIGN.

British Medical Journal, February 17.

Medical Practice in European Countries. THOMAS K. CLARK.—The conditions of medical practice in France are first described. There the medical student has five medical examinations to pass, and before he is allowed to enter a medical school he has to pass an examination in physics, chemistry and zoölogy. The degree of M.D. is the only one given. The expenses range from 9 to 150 francs a month for board and lodging. Fees are not high. In southern and central France the income of a general practitioner in the country is from $1000 to $1200. In the industrial centers, the north of France, and suburbs of Paris perhaps $4000; $12000 is the highest income of any general practitioner in Paris. Unqualified practitioners are forbidden, but it is not worth while putting the law in motion for, if convicted, only a small fine is imposed. The proportion of doctors to population is 1 to 2800. In Belgium examiners are very accommodating, but they are thorough and practical; no foreign language is required, and they will examine in English if necessary, and all the subjects be included in one examination if desired. The native student must pass at least six years in medical and allied studies before taking his degree. The expenses are not high, and the average income of the country medical man is from $800 to $1200 a year. In towns it ranges from $1200 to $2000. In Italy authorization to practice may be granted to foreigners by one of the Royal universities. They can practice without this, however, when called in from abroad to attend special cases, or if they confine their practice to foreigners. In Spain the student must take seven terms of eight months each in his medical course. The practitioner's income in towns there is from $600 to $900; in the country a man who makes $500 is well off. In Sweden the curriculum extends over eight years, the course is a severe one, and hospital attendance is compulsory. The expenses are light and the average medical income ranges from $1500 to $2000 in the country and from $2500 to a little over $3000 in towns. In Norway all students have to pass two matriculation examinations, one in arts, the other in philosophy. Medical students have three other examinations to pass, the whole course covering from six to eight years, and hospital attendance, which does not count until after students have passed the first examination, extends over four or five years. Expenses are comparatively light, and the medical men take a very high social position in Norway. The average physician's income in towns is about $1400, in the country about $1000. Quacks are allowed to practice under certain restrictions. There is no permission to foreigners to practice in Norway without the prescribed examination. The government can give the permission in individual cases, where satisfactory evidence of requisite knowledge is apparent. In Finland the course of study is prolonged: two years preparing for the first examination, two for the second, and nearly four years for the third, much of which is in hospital service. Foreign degrees do not exempt from any part of the examination. The physician's social position is high, and nearly all have some appointment, either state, town or country, with a yearly salary ranging from $400 to $2000. The maximum in general practice is $6000, and very few specialists reach $10,000. The data as regards the practice of medicine in Russia are scanty. The students are obliged to remain at the university and hospital during the whole of their student career, and frequently take post-graduate courses at home or abroad before practicing. Contract practicing is quite common. As to Servia, the medical education is obtained abroad. The student goes to Russia, Germany, Austria or even France or Switzerland to get his degree, but if it does not qualify him to practice in the country from which it is obtained, he has to pass an examination at Belgrade before being allowed to practice. The social position of the physician is high, and unqualified physicians are very severely dealt with. The average income of the general

practitioner in the country is from $1200 to $2000, and a little higher in towns. There is one doctor to every 12,567 inhabitants. In Greece no preliminary examination in arts or classics is required, and the standard of professional etiquette is not high, while advertising in the daily papers prevails to a deplorable extent. The duration of the medical course is four years and nine months. Examinations are not practical; there is no clinical or laboratory work. Hospital appointments are very few. Social position of physician is good. The pay is not large in the country and the physicians living in the country do not depend solely on medicine for a living. In large towns $1250 to $1500 is as large an income as any general practitioner receives. Foreigners holding a diploma other than a Greek one are allowed to practice after passing a practical examination in the hospital and those speaking French and German are allowed examination in these languages. No foreigner however, could practice in Greece without a knowledge of the Greek language.

The Lancet, February 17 and 24.

Restoration of Co-Ordinated Movements After Nerve Section. ROBERT KENNEDY.—In order to test the question as to the reuniting of the filaments of nerves after section, the author made several experiments, which he details. It is a well-known fact that the reunited nerve seems to be functionally as perfect as before, but it is impossible to suppose that all the nerve fibers can be so coapted as to be each connected with the former corresponding end. In two of his experiments the peripheral segment, before reunion by means of suture, was twisted so as to bring the maximum number of non-corresponding nerve-fiber ends into juxtaposition, while in the third reunion was made as accurately as possible in the old position. The object of this was to ascertain whether the time taken for the first evidence of recovery of co-ordinated movements and the course of development of the same were identical or different in the two cases; and whether the resulting cicatricial nerve segments showed, microscopically, any important differences in the arrangements of the nerve-fibers. In all three experiments, the animal being anesthetized, the sciatic nerve was divided at the level of the trochanter; but in the first two, before coapting the two ends by suture, the peripheral segment was rotated to the extent of a semicircle. Thus, on coaptation, the fibers on one side of the central segment were brought into apposition with fibers with which formerly they did not connect, i. e., those of the opposite side of the nerve. In the third experiment the nerve was divided at the same point and the accurate coaptation in the old relationship was effected by suture. In the first experiment there was no sign of returning function until the seventh day, when the paw was first used normally in walking, though it occasionally turned over; but the normal position was regained after a step or two. Undoubted evidence of returning sensation was obtained on the tenth day. On the fourteenth the supporting splint was removed and the dog used the leg perfectly, while on the nineteenth he had apparently completely recovered from the effects of the operation. On the fifty-fourth day the nerve was again exposed and found to be united in the position in which it had been sutured. Stimulation above, below, and on the site of reunion gave the normal contractions. In the second case rotation of the peripheral segment was done as in the first, and recovery of the normal use of the limb was comparatively complete on the twenty-first day. Physiologic examination of the nerve on the thirtieth showed it united in the position in which it was sutured, and to have regained its muscular irritability and conductivity. The three experiments of the nerves have all followed the same course. Microscopic examination of the three nerves showed all the normal appearances excepting in distension of the lymphatic spaces, which accounted for the macroscopic enlargements observed. The old fibers were degenerated, lying among the young ones, showing that Wallerian degeneration had taken place. The microscopic appearances of the seat of reunion leave it doubtful whether the restoration of the function in the two first cases was due to the re-establishment of the old paths for the nervous impulses by decussation in the cicatrix, or to the production of new paths by connection made between non-corresponding ends of nerve-fibers. The young fibers were very irregular, running in all directions. The conclusions from the physiologic and histologic results of the experiments are: 1. After section and immediate coaptation of a nerve, restoration of conductivity and of voluntary function may be effected in a few days. 2. This early restoration of conductivity need not be the result of the reunion of the old nerve-fibers, i. e., reunion by so-called first intention or without Wallerian degeneration, but may be the result of regeneration of young nerve-fibers in the peripheral segment. 3. Voluntary co-ordinated movements are regained equally soon, whether the two ends of the divided nerve are united as accurately as possible so as to bring the corresponding ends of the nerve-fibers into contact as nearly as possible, or whether previous to reunion the peripheral segment is twisted so that when united to the central segment non-corresponding ends of the nerve-fibers are brought into contact. 4. In the latter case the microscopic examination of the seat of reunion leaves it doubtful whether the restoration of function is due to the re-establishment of the old paths by decussation in the nerve cicatrix or to the reunion of ends of nerve-fibers which do not correspond but which happen to be brought into apposition. 5. In suturing a divided nerve no trouble need be taken to secure coaptation of the two segments in old relationship, simple approximation of the two ends being all that is required.

Diphtheria of Conjunctiva. SYDNEY STEPHENSON.—The author describes cases of diphtheria of the conjunctiva that are met with at the Northeastern Hospital for Children, London, both the serious form and the milder type—"croupous"—which presents a close resemblance to the membrane in so-called membranous rhinitis. He thinks that the only certain way of recognizing diphtheria is finding the bacillus, which is abundant in these croupous cases. He suggests putting aside the ambiguous word croupous and classifying the cases as mild and severe or using the anatomic basis of certain Continental writers, who recognize the interstitial, superficial, and catarrhal cases. Since it has been shown that diphtheria of the conjunctiva need not coincide with membranous exudate there is good ground to believe in the existence of so-called catarrhal cases. He thinks that where diphtheria is suspected, we should not waste valuable time making bacteriologic investigations, but give antitoxin. For local treatment he usually employs a strong solution—15 per cent.—of potassium permanganate painted over the conjunctiva once a day, and a weak antiseptic lotion, such as a corrosive sublimate 1 to 5000, for cleaning the mucous membrane at frequent intervals. If the cornea be involved, atropia drops—2 grains to the ounce—are used three times a day. He reports a case of the milder type.

Topographic Relations of Brain, Frontal and Maxillary Sinuses, and Venous Sinuses of Dura Mater to Walls of Skull. PAUL REGNIER AND JULES GLOVER.—The authors describe their researches in which radiographic methods were employed in the investigations of the anatomy of the skull and face. The points especially studied were the topography of the cerebral convolutions in relation to the venous sinuses of the dura mater and the skull, and the cavities of the cells of the mastoid process and of the facial and cranial bones, and also the interior cavities of the brain. They took the hardened brain freed from pia, and placed it back in the skull for the skiagram. They report that in examining a child's head with a fluorescent screen it was sometimes possible to see a clear patch corresponding to the median portion of the brain that exists normally in young infants but its transparency is more apparent in the pathologic state when the ventricle is dilated with fluid. It is easy, by mere examination with the fluorescent screen to verify the transparency and the condition as to emptiness of the frontal and maxillary sinuses, and perhaps even of the mastoid cells, with much more exactness than by making use of the ordinary electric light. Instead of employing a powerful light introduced into the mouth for the illumination of the maxillary sinuses, or applied to the upper and inner margin of the orbit for the illumination of the frontal ones, they recommend recourse to cylindric focus tubes. With this object, and in order to simplify the manipulations, the tube is fixed on a small and light stand made of ebonite, or even of wood, and the observer wears caoutchouc gloves to protect himself against the shocks from the current. The tube can be brought near to, or removed from, the patient's head, until the proper distance is found, without causing any incon-

venience or danger. In the examination of the face all the cavities become visible at the same time.

Epistaxis from Ethmoidal Veins. A. BROWN KELLY.—Spontaneous bleeding of the nose usually comes from the lower and anterior portion of the septum. In hemophilia it may escape from many parts of the mucous membrane, and in still a third class it may arise from the inferior turbinate or be traced to veins of the posterior part of the nose (Schmidt), and to an artery (Rosenberg) on the floor, anteriorly. Kelly reports several cases in which he thinks it undoubtedly comes from ethmoidal veins in the upper portion of the cavity, and suggests, as a cause of the bleeding in this region, their close connection with the intracranial circulation, which fact has received little attention from anatomists, with the exception of Zuckerkandl, and has hitherto escaped notice of rhinologists. He has found no allusion to it as a possible source of epistaxis. Nevertheless, it is from these vessels or from some anastomosing with them that we would expect the bleeding, which is followed by a sense of relief in the head. Bleeding from this region is easily checked by firmly packing, between the septum and the anterior half of the turbinate, a strip of gauze reaching to the roof of the nose leaving the lower part free for respiration. After the packing has been changed two or three times, at intervals of a day—and if it can be introduced without becoming saturated with blood, of two days—the tendency to bleed will usually cease and treatment may be suspended.

Medical Press and Circular (London), February 17.

Risks of Unoperated Uterine Fibroma. E. STANMORE BISHOP.—The author enumerates the following changes which take place in uterine fibromyomata, endangering life: 1. Inflammatory adhesions, often complicated with, if not entirely due to, inflammations occurring in the Fallopian tubes and ovaries. Meredith, in an analysis of Tait's cases, estimated that 54 per cent. were complicated with tubal disease, and 46 per cent. with chronic ovaritis. Twombly estimated that 50 per cent. of interstitial fibroids were complicated with affected tubes sooner or later in their course. These unnecessarily complicate operations by greatly lengthening the time required for the safe enucleation of the tumor or uterus; by their contraction, altering the normal relation of parts, rendering possible, even probable, the laceration or wounding of the gut or ureter, and any one who has had, as a sequel to a tedious hysterectomy, to suture either the one or the other, knows how immensely the chances of such a patient have been decreased, both by the time which the abdomen must remain open, and by the additional traumatism, to say nothing of the prospect of possible stricture of one or the other tube in after years; by risk of leakage of some infective material during the process of removal. 2. Often associated with the above is the chance of necrosis or sloughing of the fibroid itself. 3. There is the possibility of pressure on the ureters with the resulting changes thus produced in the kidneys. 4. In many of these cases, and apparently directly due to the persistent losses of blood, cardiac disease occurs. 5. A broad ligament fibroid may grow in such a direction as to undermine, and spread out the meso-cecum, or meso-sigmoid. During its development, the changes in position of the overlying gut are so gradual that no symptoms may be apparent. Removal of the tumor, however, at once produces a sudden alteration, and occlusion or gangrene of the intestine may result.

Annales de Dermatologie (Paris), January.

The Eczema Question. L. BROCQ.—This article, prepared at the request of the Committee of Organization of the approaching Medical Congress, is an exhaustive critical review of the various conceptions that have been held in regard to eczema; of what we should understand by the term "true eczema;" of the various theories that have been propounded in respect to the etiology and pathogenesis of eczema, and how its various manifestations should be classified. Should eczema be regarded from the objective point of view, limiting the term with Willan, Bazin, Fox, etc., to vesicular affections only; or, with Hebra, Hardy and Wilson, include all erythematous, squamous, vesicular, pustular and papulous affections? What is the nature of eczema? Should we define it or rather formulate it by creating a term which in reality merely signifies a predisposition to eczema? Should it be considered purely a local affection? It is better to refrain altogether from hypotheses in regard to its genesis, which it is impossible to demonstrate? The German school, with its numerous ramifications in Italy, England and America, has continued the traditions of Hebra; and Unna, in order to defend his conception of seborrheic eczema, asserts that the definite criteria of all eczematous eruptions are parakeratosis and the morococcus. This instalment does not reach the second question stated.

Clinical and Bacteriologic Study of Impetigo. R. SABOURAUD.—The study of impetigo in literature convinced Sabouraud that the confusion of ideas prevailing on the subject imposed the necessity of new clinical studies, and to this he has been devoting himself, with the result that in the generally-accepted impetigo he sees two different diseases, one the contagious, phlyctenular impetigo of Tilbury Fox, and the other the peripilar and pustular impetigo of Bockhart. This dual nature of impetigo he proposes to establish on a firm basis in a later communication.

Contagiousness of Lichen Planus. MOREL-LAVELLEE.—In a patient with no syphilitic antecedents, two patches of lichen planus developed on the tongue after the husband had been affected with lichen planus on hands, penis, tongue, etc., for eleven years with no treatment after the first. Brocq has also recently called attention to three cases of lichen planus coexisting in husband and wife, or in mother and daughter. Lavallée emphasizes the great efficacy of injections of calomel in his case; they cured the lingual lesion almost completely.

Bulletin de l'Academie de Medecine (Paris), February 5.

Localization, Elimination and Origin of Arsenic in Man and Animals. A. GAUTIER.—In 100 grams of fresh thyroid gland Gautier has established the presence of an average of .75 mg. of arsenic both in man and animals; in the mammary gland .13 mg., and a variable slight quantity in the brain and thymus, with diminishing traces in the hair, horns, skin, milk and bones. No traces were found in the muscles, liver, kidneys, spleen, testes, uterus, bone marrow, blood, urine, and only the slightest traces in the feces. Examining the food for the origin of this arsenic, he found no traces in meat, eggs, bread nor fish, and therefore attributes the origin of the arsenic to the vegetables, turnips, cabbages, potatoes, etc., in which it is known to exist, and also to milk, thymus, skin and brains, in which it is found as above mentioned, chiefly in the form of iodized nucleins. He also establishes that the arsenic does not substitute the phosphorus even in animals and with products abounding most in nucleins, except very rarely and in very small amounts. This substitution is elective and only occurs in special organs; the thyroid, thymus, mammary gland, skin, etc. It must respond to some still unknown, but important function of these organs, for general health is incompatible with the complete disappearance of the arsenic. From a medicolegal point of view it is sufficient to bear in mind that the muscles, liver, etc., do not normally contain a trace of arsenic distinguishable by our present methods of research; also that the total amount of arsenic in the body of an adult does not amount to more than one two-hundred-millionth of the whole.

Journal de Medecine de Paris, February 11.

General Arthritic Pseudoparalysis. KLIPPEL.—When diffuse infectious meningo-encephalitis—general paralysis—coincides with cerebral atheromasia—endarteritis from atheromatous degeneration—the first of these lesions is grafted on the second. The atheromatous subject has become a general paralytic. On the other hand, Klippel establishes that endarteritis from atheromatous degeneration of the intracortical arterioles and the generalized degeneration of the noble elements which accompany it may of themselves alone create the syndrome of paralysis. This endarteritis from atheromatous degeneration is not limited to the brain, but may affect the entire arterial system; with aortic insufficiency and atheroma in the aorta, in certain cases, or induration of the temporal and radial arteries, a pulse and swelling in the subclavicular, etc., in the peripheral arteries, and interstitial nephritis, etc., from involvement of the renal. The evidences of this arthritic or atheromatous pseudoparalysis must be sought elsewhere than in the cerebral disturbances, but even the latter differ in certain cases from those observed in true general paralysis. The unilateral paralysis following the first apoplectic ictus is apt

to be more pronounced and more permanent, and delirium is less frequent. Manifestations of arthritism are also frequently observed: diabetes, uremia, lithiasis. In an observation reported at length, the cerebrospinal fluid was sterile; there were no lesions of inflammatory encephalitis, but merely atheromatous degeneration of the arterioles and nerve elements; death occurred from sudden hemorrhage in the left hemisphere.

Presse Medicale (Paris), February 10 and 14.

Feeding in Typhoid Fever. H. VAQUEZ.—First asserting that two liters of milk is a starvation diet for a healthy person, and still more for febrile patients, whose losses are increased while their assimilation is diminished by the fact of the fever, Vaquez relates his experience with eleven patients fed more liberally. It has convinced him that substantial feeding is indispensable in typhoid fever; the convalesence in every case was remarkably rapid and the patients regained in a few days, the small amount of flesh lost during the illness; five pounds in one, regained in eleven days. Pulmonary complications were much less frequent and there were no secondary complications. The Russians have also recently proclaimed the advantages of a substantial diet, stating that no serious gastrointestinal troubles follow its use. Vaquez' method was Brand baths every four hours when necessary, day and night, and the usual milk supplemented by three yolks of egg, two wine glasses of meat jelly or the juice of fresh meat, one bowl of flour or rice gruel and an occasional half or whole teaspoonful of somatose in the milk, during the twenty-four hours. This was commenced from the first and kept up until two or three days after defervescence.

Experimental Study of Parasitism of Tumors. W. PODWYSSOTZKI.—The cabbage and other cruciform plants are sometimes affected with a disease called clubbing or club-root, in England, caused by a myxomycetes, closely related to the Chytridiacea, the Plasmodiophora Brassicæ. Inoculating rabbits and guinea-pigs with spores from these tumor-like growths on the root of a cabbage, Podwyssotzki succeeded in producing parasitic mesodermic tumors in these animals. They grew to the size of a walnut in the course of six weeks, and then retrogressed. Inoculation with spores previously killed failed to reproduce the tumor. The proliferation of the mesodermic cells is evidently due to the action of the living spores, which incites them to hypertrophy and increased karyokinesis, thus inducing the formation of a tumor, a myxomycetic, parasitic granuloma. If further experiences result in the production of a tumor which does not retrogress so soon, but invades the surrounding tissues, we would have an actual sarcoma, endothelioma or perithelioma. A significant fact noted in these experiences is that a parasitic cellular invasion may be, and remain, completely concealed, almost invisible in the protoplasm of the tumor, which possibly explains the failures to discover the parasite of carcinoma.

Causes and Treatment of Acute Abscesses of Prostate. A. ROUTIER.—Two observations are described in which no cause could be traced for the abscess; the ureter, bladder and urethra were healthy. The symptoms commenced with a chill and slight fever, pains in one case, indolent and unsuspected abscess in the other. Both were promptly cured by an incision through the rectum, the patient on his right side after anesthesia with ethyl bromid. The incision is made boldly, 2 to 3 cm. in length. A canula is introduced with the finger, to rinse out the cavity. The incision is then tamponned with gauze. The fourth day there is an alvine discharge, and by the next nothing remains of the incision except a slight impermeable depression. The patient is completely cured by the eighth to twelfth day, and none of Routier's numerous operations of the kind have ever had any septic complications.

Springs in a Limestone Formation and Typhoid Fever. THOINOT.—Springs in a limestone country issue apparently pure and have always been considered a reliable source of drinking water, but Thoinot establishes that the surface water penetrates to the depths in such a formation, carrying all or nearly all of its impurities with it, without being filtered as in a sandy or loamy soil. He traced the increase in typhoid fever last year in Paris to the supply from certain springs which were contaminated by residents of the district above them. The fluorescin test showed the identity of the spring water with surface water from ravines at quite a distance used by the farmers for dumping grounds. He urges legislation to protect the sources of the springs from contamination.

Semaine Medicale (Paris), February 17.

Nissl's Method and the Nerve Cell in Human Pathology. C. PHILIPPE AND E. GOTHARD.—Imbedding in celloidin, staining for twenty-four hours with Unna's polychrome blue and decoloring with a special fluid, is the method followed by the authors. The formula found most reliable and delicate for the decoloring, differentiating fluid is: creosote and xylol āā 50 c.c.; oil of cajuput, 40 c.c.; absolute alcohol, 160 c.c. No other method can be compared to Nissl's, they assert, for studying the morphologic lesions of the nerve-cells, but it does not reveal the finer or structural lesions. As it only stains the chromatophiles, it only shows chromatolysis as the new lesional process, and this is not necessarily pathologic, although certain characteristics of chromatolysis have an actual pathologic significance, but limited. In the adult and the aged there seems to be a physiologic chromatolysis. Apathe and Bethe have, by a more delicate technique, revealed the existence of primary fibrillæ, intercellular, intraprotoplasmic and cylinderaxile, but their findings conflict with the neuron theory.

Centralblatt f. Chirurgie (Leipsic), February 17.

Use of Gold Wire in Radical Operations for Hernia. DE FRANCISCO.—Even as late as six months after operation—the wound healed by first intention—Tansini has had a silk thread suppurate out, and the liability to this annoying incident has led him to test gold wire for the sutures, as peculiarly soft, flexible and free from all danger when left permanently. He has thus treated ten patients, all with extensive hernias with a broad opening. He uses a coarse wire for the deeper suture and a very fine one for the superficial. He twists the ends together with his fingers and turns each end back, and sinks it in the flesh, and even uses wire to ligate the hernial sac. The absence of suppuration and the strength imparted to the cicatrix by the wire are the chief advantages of this method. All scraps left can be melted and used again.

Deutsche Medicinische Wochenschrift (Leipsic), February 15 and 22.

Treatment of Constricting Ulcerations of Rectum. J. WOLFF.—This author considers resection the only means of removing the cause and permantly curing the trouble. Resection of the constricting portion may lead to spontaneous retrogression of ulcerations above. He reports an observation which shows the benefit of substituting, for the resected wall of the rectum, a double skin flap. The portion toward the lumen acquired the properties of the rectal wall and permanently assumed its functions.

Technique of Vaccination. FLACHS.—The square on the front of the trunk, bounded by a horizontal line two finger-widths below the nipple and a vertical line the same distance beyond it, is recommended by Flachs as the most suitable point for vaccination: sheltered from injury, not in frequent motion like the arm, and its concealment of the scar are among the reasons he urges. He covers the spot with a piece of gauze held in place with a few strips of plaster and a bandage outside, changed after the bath.

Surgical Treatment of Tuberculosis of Kidney. F. KOENIG.—Pathologic-anatomic findings show that cystotomy does not cure renal tuberculosis except in extremely rare cases, and resection of the organs still more rarely. Extirpation of the diseased organ is the only certain means of conquering renal tuberculosis, according to Koenig. He has established, from many years' experience and a record of eighteen cases, that there are two varieties, the solitary lesion of the gland substance, not communicating with the pelvis of the organ, which it is almost impossible to diagnose, and the pyelitic. In a number of cases, therefore, the diagnosis of renal tuberculosis is dubious, and it is impossible in many cases to determine whether the other kidney is sound or not. But, none the less, he asserts that if we are not to allow patients to succumb without an effort on our part, we must make up our minds to resort to extirpation more frequently, even in the absence of positive certainty that the pyelitis is tuberculous and the other kidney sound. Three of his patients have been cured for six to twelve years and are now robust: three others for over two years and now "feel perfectly well." The rest were relieved of the renal troubles and lived several years in comfort before succumbing to tuberculous lesions elsewhere.

One young girl had a bladder affection and hematuria from the non-tuberculous kidney both persisting after extirpation of the tuberculous organ, but gradually subsiding completely, and seven years of society life followed, then marriage and death in the puerperium. Koenig had strictly forbidden her to marry. The modern conception seems to be that coexistent tuberculous lesions elsewhere do not counterindicate ablation of a tuberculous kidney. Life is prolonged and rendered more bearable, and there is always a chance that the intervention may affect the other lesions favorably. If the testis is involved, Koenig removes it at the same time. The lesions of the bladder have a tendency to heal spontaneously as soon as the renal focus of infection is removed. In several cases he has observed spontaneous healing of the bladder trouble after nephrectomy, and of established foci in the prostate. One patient, cured for six years, had two foci in the prostate and another in the testis. He has been for six years a robust laboring man, his name dropped from the sickness insurance list. We know, from the dissecting-table, that foci in the prostate can heal, and we can trace the process: they become more and more indurated until suddenly all symptoms have vanished, but unfortunately the contrary is the rule in most cases. Landau states that intervention is indicated with threatening symptoms of renal tuberculosis, even if we know the other kidney is diseased. He removed a kidney for supposed echinococcus seven years ago, and found—too late—that it was merely a polycystic kidney, which we are taught is a bilateral affection. But the patient is alive and well to-day. He has also recently removed a tuberculous kidney on account of threatening symptoms, in a patient who has had phthisis pulmonalis for fourteen years, and the general health has very much improved. The renal lesion dated from a puerperium about a year before. It is possible that the chronic pulmonary lesion may yet heal. Barth has also recently published an observation of extirpation of the left tuberculous kidney with coincident tuberculosis of the ureter and bladder. The patient has been healthy during a number of years since.

Experiences with Carcinoma of Colon. I. BOAS.—A tumor was palpable in only 8 of the 15 cases analyzed in this communication; 3 were women; 12 were operated on. In respect to the syndrome Boas distinguishes four groups: in the first, there were absolutely no suggestive symptoms and diagnosis was impossible; it was only probable in the second group, in which there were obscure, ambiguous local symptoms. The third was distinguished by obstinate constipation and violent colic, nausea and vomiting, this syndrome appearing in persons with previously healthy bowels, and gradually becoming more and more frequent: these were the cases with stenosis. In the fourth group the first manifestation of trouble was a sudden ileus. The movability of the tumor is the most striking objective symptom, but this was only noted twice, and the tumor was in the cecum in each case. On account of the possible temporary disappearance of the tumor, repeated investigation may be necessary, with bowels empty or filled, or distended with air or water. Palpation in a full warm bath is also desirable. The signs resemble those of chronic exudate in the cecum and tubercular tumors in the ileocecal region; positive differentiation is practically impossible. Some assert that the diazo reaction does not occur with malignant tumors, but always with tuberculous lesions; Boas urges further study of this point. Colicky pain is pathognomonic of stenosis with the carcinoma. Tetanic contraction or rigidity of the intestine may be noted, but soon subsides, or may appear in an abortive form; small loops contracting and relaxing with perceptible noise. There are no gastric symptoms except the vomiting. Blood was vomited in two cases. Motility is undisturbed. Constipation or diarrhea may prevail or alternate. Blood was noticed on the feces in only two cases. Bloody-purulent feces were more frequent, but are not conclusive in the absence of a palpable tumor. Boas has observed several cases of severe chronic dysentery in which the feces had the same bloody-purulent appearance as with carcinoma of the colon. Scraps of the tumor can sometimes be obtained by exploratory flushing of the bowels. It is the task of internal medicine to keep the lumen permeable with purgatives. The diet should be rich in calories, especially fats, and the cachexia may be temporarily suspended as the conditions of nutrition improve from the widening of the stenosed lumen. The subjects should be warned of the dangers of food with hulls or much cellulose, which may suddenly transform a compensated stenosis into complete ileus. In case of very violent peristalsis, purgatives must be avoided and an opiate will be found the most effective sedative and bowel regulator. In one case opiates administered per rectum soon produced regular stools. One of the 5 cases in which the tumor was resected has been permanently cured for five years; 1 for five months; 3 died. In 4 an entero-anastomosis was done but without appreciable benefit. It is merely palliative. He suggests the question whether, in the absence of stenosis, inoperable tumors or tumors found inoperable on operation, should be treated with entero-anastomosis to prevent stenosis later. Enterostomy and colostomy are only indicated with threatening ileus. [Koerte has recently reported forty-nine operations for the relief or removal of carcinoma of the colon, several patients operated on twice. Thirty-three recovered. He states that tenesmus and diarrhea suggest location at the sigmoid flexure. Rosenheim's experience has been that rectal hemorrhages and lumbar neuralgia frequently appear in the early stages and are valuable aids to diagnosis. ED.]

Statistics of Carcinoma at Hamburg During Twenty-Seven Years. F. REICHE.—Carcinoma is increasing in frequency. From 71.63 per 100,000 of population in 1872, it has risen to 97.82 in 1898. The figures also confirm the enormous preponderance of the digestive organs as the site in men, and of the genital in women. The largest percentage of carcinoma of the uterus occurs between the ages of 45 and 50; of the mamma, between 55 and 60; of the rectum, in both men and women, between 60 and 65; of the stomach, in both men and women, between 65 and 70.

Muenchener Medicinische Wochenschrift, February 13 and 20.

Study of Inflammation of Serous Membranes. R. HEINZ.—The effect of turpentin and iodin in producing inflammation is shown to be that the former produces necrosis of the tissues and secondary inflammation, while the latter induces fibrinous exudation without degeneration of the tissues, and consecutive destruction of the endothelial surfaces. The result of this destruction is the rapid adhesion of serous surfaces in contact, as soon as the endothelium is destroyed. A number of rabbits were injected with 1 c.c. of 1 per cent. solution of iodin, and in twelve hours contiguous intestinal loops were adherent. In eighteen hours they could be resected without coming apart, and in thirty-six they could only be separated by force. Iodin is therefore adapted to secure rapid adhesion of serous walls, in case of a hydrocele, for instance, and Lugol's solution is superior to an alcoholic one for the purpose.

Etiology and Therapeutics of Episcleritis Periodica Fugax. W. STOELTZING.—Described under various names—"hot eye," etc.—Fuchs' descriptive title above seems most appropriate for this inflammation of the highly vascular episcleral tissue, distinguished by its transient character and its tendency to recur. An observation is reported by Stoeltzing, followed for more than five years, with 100 attacks during this period. He establishes that the trouble is pre-eminently a vasomotor irritation involving the nerves, shown by the remarkable, exactly localized trigeminus neuralgia invariably preceding the ocular trouble, and also by the severe local pain, which is frequently out of all proportion to the degree and extent of the inflammation. The chief point in the communication is the great benefit derived from potassium iodid after failure of all other remedies. The special action of the potassium iodid is evident in the fact that when it is suspended the trouble recurs, to disappear again as soon as it is resumed. There were no uremic, syphilitic nor malarial antecedents in this case. Iritis accompanied a few of the attacks; usually there was no hyperemia of the iris.

Effective Treatment of Chronic Hydrocephalus with Spinal Punctures. J. A. GROBER.—Two cases are described in which lumbar puncture was practiced systematically every week, 25 and 12 times in all. In the first a rhachitic hydrocephalic child of 3, unable to stand, walk or grasp, not speaking a word, was transformed by this means, combined with dietetic measures, phosphorus and cod-liver oil, into an active

little fellow in the course of six months, with the intelligence of his years. The other has also been much improved and is still under treatment. The pressure was 700 and 600 at first in Observation A, falling to 300 to 200 later, with an escape of 15 c.c. of cerebrospinal fluid. This fluid was usually clear, but with a few punctures almost pure blood escaped, probably from injury of some subdural or pial vein. The average of 17 tests for albumin in the fluid was .94 per cent. dry substance; .84, ashes; .12 albumin (Obs. A). Average of 11 tests in Obs. B: 1.09 per cent. dry substance; .78, ashes; .31, albumin. Specific gravity: A, 1006.5; B, 1006.9.

After-Treatment of Major Abdominal Operations. STEINTHAL.—Steinthal uses a threefold dietetic treatment, which he recommends: He quenches thirst with an intravenous injection of 1 to 1½ liters of salt solution twice a day, for four to six days after operation. He supplies nourishment amounting to about 744 calories a day, with a subcutaneous injection of 40 grams of sterilized oil (Leube), morning and evening, and supplements this with frequent, small alimentary rectal injections.

Angina with Endocarditis. ROEGER.—In 120 cases of angina, at the Stuttgart Hospital, excluding all patients with articular rheumatism or swellings, diphtheria and exanthemata, a heart sound was noted in 24: commencing and ending with the angina in 14; persisting later in 10. In 13 of these 24 there was an efflorescence resembling herpes, on the mucous membrane of the tonsils and adjacent regions, with herpes on the lips and face in 5. The heart sound appeared on an average three days after commencement of the angina, and lasted from seven to thirty days. The subjects were all between 16 and 30. The large proportion of cases in which the heart sound persisted indicates that there must have been an actual inflammation of the endocardium, and one observation is related at length in which the endocarditis became so severe that a fluctuating tumor required incision, and a tablespoonful of cruor was evacuated with a softened thrombus in the center. A slight systolic sound at the apex still persists, although recovery was prompt and otherwise complete. [Packard has recently reported five cases of endocarditis with tonsillitis. THE JOURNAL, p. 35.—ED.]

Symptomatology of Acute Pancreatitis. H. DOERFLER.—The first and only symptom for a long time, in the case reported was intense pains in the lumbar region, resembling the most violent lumbago or rheumatism in the spinal vertebræ, or bilateral ischias. There was no pain in the epigastrium nor abdomen. Not until fever and vomiting appeared the third day was there a suspicion of trouble elsewhere. The presence of sugar in the urine and the collapse directed attention to the pancreas and at the autopsy, the sixth day, a suppurating pancreatitis with necrosis of the pancreas tissue explained the clinical picture. The ascending and transverse colon were very much distended and abruptly defined from the descending colon, which was entirely empty and collapsed, although no lesion could be found to explain this phenomenon. It possibly might have been due to compression or invasion of the innervation by the pancreatitis, and suggests that the pancreas had better be investigated in case of puzzling ileus.

Societies.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Atlantic City, N. J., June 5-8.

Medical Association of the District of Columbia, Washington, April 5.

Western Ophthalmological, Otological, Laryngological, and Rhinological Association, St. Louis, April 7-9.

Tennessee State Medical Society, Knoxville, April 10.

Florida State Medical Society, Orlando, April 11.

Mississippi State Medical Association, Meridian, April 11-13.

Medical Society of California, San Francisco, April 14-16.

Medical Association of Alabama, Montgomery, April 17.

South Carolina Medical Association, Charleston, April 18.

Louisiana State Medical Association, New Orleans, April 19-21.

Medical Association of Georgia, Atlanta, April 18.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 24.

Texas State Medical Association, Waco, April 24.

American Proctologic Society, Washington, D. C., May 2 and 3.

Congress of German Physicians and Naturalists.—The seventy-second congress of "deutscher Naturforscher und Aerzte" will be held this year at Aix la Chapelle, September 17 to 21.

Lawrence County Medical Society.—This Society met in Bedford, Ind., early in the month, and elected the following officers: president, R. B. Short; vice-president, H. Voyles; secretary and treasurer, F. E. Stipp.

Tippecanoe County Medical Society.—At the meeting of this Society, held the 5th inst., in La Fayette, Ind., the following officers were elected: president, W. T. Youkey; vice-president, Charles Hupe; secretary, Edward C. Davidson; treasurer, George K. Throckmorton.

Cincinnati Academy of Medicine.—At the annual election held recently, the following were chosen: president, Charles L. Bonifield; first vice-president, B. P. Goode; second vice-president, George B. Orr; treasurer, S. E. Allen; recording secretary, Edward Cone; corresponding secretary, Magnus Tate; librarian, A. I. Carson.

Rhode Island Medical Society.—The annual meeting of this Society was held in Providence, R. I., March 1. The following officers were elected: president, George D. Hersey; first vice-president, George F. Keene; second vice-president, William R. White; recording secretary, Frank L. Day; corresponding secretary, Herbert Terry; treasurer, Frederick E. Rogers.

Therapeutic Society of District of Columbia.—At a recent meeting of the Therapeutic Society of the District of Columbia the following officers were elected for the ensuing year: president, Howard H. Barker; vice-presidents, B. G. Pool and L. Kolipinski; corresponding secretary, D. Olin Leech; recording secretary, N. P. Barnes; treasurer, J. S. McLain; librarian and curator, H. T. A. Lemmon.

German Congress of Surgery.—The twenty-ninth Congress of Surgery will meet in Berlin, April 18 to 21. Czerny will deliver an address on "Treatment of Inoperable Carcinoma," and Krönlein and Rehn on "Carcinoma of the Rectum;" Israel on "Calculi in Kidney and Ureter;" Angerer on "Crushing Injuries of the Abdomen," and Bergmann on "Volvulus." Crédé has announced an address on "Simplification of Gastro- and enterostomy," and Lexer one on "Teratoid Tumors of the Abdomen."

Kentucky State Medical Society.—This body meets in Georgetown, Ky., on May 9, 10 and 11. The Committee of Arrangements desires that there shall be a full line of exhibits, by all the houses which usually make displays, on this occasion, and extends an invitation to all who may desire to be represented. The Committee will offer every facility in its power, and will furnish full information on application. John A. Lewis, M. D., Chairman, Committee of Arrangements, Georgetown, Ky.

Thirteenth International Congress of Medicine: Paris, August 2 to 9.—A communication has been received from the secretary-general, in reply to inquiries in respect to membership in different sections. He states that each member of the Congress can register in as many sections as he may wish, and take part in their proceedings, without extra charge. But as the transactions of each section are to be published in separate volumes, it will be impossible to supply a copy of the proceedings in every section—twenty-four in all—free to each member. The subscription of twenty-five francs, or $5, sent direct to Treasurer-General M. Duflocq, rue Mironesnil, 64, Paris; or to Dr. H. B. Jacobs, 3 W. Franklin St., Baltimore Md., chairman of the committee for the United States, entitles each member to a general volume, which he will receive in due time, containing a summary of the proceedings of the Congress; also to a volume containing the full report of the general meetings;

also one containing the proceedings of the section in which the member has registered. If registered in more than one section, he will receive the volume of the transactions of the section named first on his application. Members can obtain the transactions of the other sections by applying to M. Masson, official publisher for the Congress, 120 boulevard St. Germain; terms to be determined later. The price per volume will be less in proportion to the number of sections whose proceedings are desired. Particulars in regard to lodgings, etc., were given in THE JOURNAL of February 10 and 24, pages 361 and 492.

Association of American Medical Colleges.—The next annual meeting of this Association will be held at the Hotel Shelburne, in Atlantic City, N. J., on June 4, 1900, the Monday preceding the meeting of the AMERICAN MEDICAL ASSOCIATION. The afternoon session will be open. All medical educators, the members of the Southern Association of Medical Colleges, the members of the Federation of State Examining Boards are invited to be present, and participate in the discussion. The session will be opened at 2 p. m., with the following program: 1. President's Address, by Parks Ritchie, dean of the University of Minnesota, Minneapolis. 2. "Methods of Clinical Instruction and Management of Clinics," by F. C. Hotz, professor of ophthalmology in Rush Medical College, Chicago. 3. "A Report on the Practical Operation of the Case System in Harvard Medical School During the Past Year," by Prof. W. B. Cannon, Cambridge, Mass. 4. "A Demonstration of the Preparation of Pathologic Specimens for Class Room and Museum," by Gustave Fütterer, professor of pathology in the Northwestern University Medical School, Chicago. 5. "Method and Apparatus for Teaching Experimental Physiology," by Winfield S. Hall, professor of Physiology, Northwestern University Medical School, Chicago. 6. "Report of Committee on Elective Courses in Medical Schools," by John M. Dodson, Chairman, Chicago. Discussion of the papers and the report of the committee will be open, and all the guests of the Association will be at liberty to take part. The business session will be held at an adjourned meeting, which will follow the usual order, as directed by the by-laws. Proposed amendments to the Constitution must be in the hands of the secretary not later than April 24. They will be published in THE JOURNAL, May 15.

Chicago Society of Internal Medicine.

Feb. 27, 1900.

COMBINED ARSENICAL AND LEAD POISONING.

DR. HUGH T. PATRICK reported a case of combined arsenical and lead poisoning, with unusual features. The patient, sent by Dr. Kerlin, was a seamstress, 28 years of age, who was compelled to quit work a year ago because of tremor when she attempted to sew. She became very weak generally and was easily exhausted. Three or four weeks ago, before she came to him, she had some acute attack, with pains and tenderness over different parts of the body, and symptoms resembling those of hysteria, which lasted for a week or ten days. This was probably an instance of what has been called lead encephalopathy. As soon as this acute attack had subsided, the patient improved somewhat. She had no wrist-drop but had finger-drop. She could extend the hand on the forearm, but could not extend the fingers. This finger-drop was characteristic in that the paralysis diminished in degree from the radial toward the ulnar side. She had a lead-line but, what is characteristic of many cases, there was no lead-line in front, except one small spot between the two lower incisors, while on the buccal side of the lower jaw there was an uninterrupted one from the molars on one side to those on the other. She had an exquisite intention tremor, which is very exceptional in lead poisoning. Besides, she had a distinct tremor of the tongue and lips, which is practically unheard of in lead poisoning, and the deep reflexes were greatly exaggerated, which is likewise exceptional in this. It was learned that the patient had used a cosmetic on her face, a powder called "flake white," which she mixed with water and glycerin, and applied to the face wet. "Flake white" is commercial carbonate of lead. A sample of that used by the patient was analyzed by Dr. Herzog, who found arsenic in it sufficient to cause poisoning. The latter drug in a measure accounted for some of the peculiarities observed in this case, notably the intention tremor, and particularly the tremor of the tongue and lips, which was so pronounced as to interfere with articulation. Doubtless, too, the exaggeration of the deep reflexes was caused by it.

MEMBRANOUS COLITIS.

Dr. Patrick also reported on a patient seen, through the kindness of Dr. Lemke, to whom he had been sent by another physician, a diagnosis of tabes having been made. He was 30 years of age, and at 20 began to have considerable pain at the junction of the sacrum with the right ileum, which gradually extended until it now involved the front of the abdomen. This pain became so intense that he had to quit work. It was more or less steady all the time with paroxysms. He was first admitted into a hospital in Toronto, where a diagnosis of pachymeningitis was made. He was treated with cautery and blisters, but did not improve, and he was said to be incurable. Shortly after this he went to Colorado, consulted various physicians, who did not help him much, and during all this time had trouble with his stomach and bowels. Every now and then he would be seized with a sudden pain with imperious call to defecate. His father induced him to take frequent colonic flushings, which relatively cured him, after all physicians had failed. He after this attended to his work as a clerk. During the last seven years he has had attacks of intense pain through the abdomen; the attacks are paroxysmal and are aggravated by movement, and last sometimes for two or three weeks, gradually disappearing. The pain during one attack extended from the pelvic bones up to the sternum and bound him as in a vise. He could not sit, walk, nor do anything. This attack lasted several days, and finally disappeared. This might very well be mistaken for an abdominal crisis of tabes, and an ordinary examination revealed no knee-jerk. But the pupils were normal and reacted perfectly to light. The patient had no sensory disturbances, no bladder disorder, no ulnar analgesia, and the knee-jerks on re-enforcement were perfect. Immediately after re-enforcement they were easily elicited, so that tabes could be positively excluded. He furthermore gave a clear history of enterocolitis.

Dr. Patrick believed that the foundation of the man's trouble was in the gut. One evening, just before the patient consulted him, he had three bowel movements within a few minutes. The first one was relatively normal; the second stool, on inspection, consisted of softened and unnatural-looking feces, mucus and a long string of black, semiclotted blood. The third consisted of a chunk half as large as an egg, mostly mucus, its passage being preceded by severe pain and an imperious desire to empty the rectum. He had frequently passed largo and small pieces of pseudomembrane.

The question of treatment of membranous enteritis of long standing is not easy of solution. The case was interesting on account of the relation between neurasthenia, other functional nervous disease, and membranous enteritis. Neurologists are a unit in declaring that the latter is not a nervous disease, while internal medical men often say it is. Dr. Patrick does not believe it is caused by neurasthenia, although his patient had neurasthenic symptoms.

CASE OF TABES WITH PROGRESSIVE MUSCULAR ATROPHY.

Dr. Patrick's third case was of this condition. The patient, a cigar-maker, 43 years of age, had a chancre at the age of 20. Two and a half years ago he first noticed disability of the forefinger and thumb of the right hand. There is atrophy of the thenar and hypothenar eminences, of the abductor indicis, and of the interossei. He is beginning to have a claw-hand. In addition, there is atrophy of the left deltoid, which is the next muscle ordinarily affected in progressive muscular atrophy, and beginning atrophy in the left thenar eminence. The upper arm is thinner on the left side and he has paralysis of the serratus magnus of the right side, causing the scapula to "wing," while the action of the deltoid is good. This condition, beginning 2½ years ago, has gradually progressed. There is fibrillary twitching in all of the affected muscles, as well as in some as yet unaffected ones. There is partial reaction of degeneration in every atrophied muscle. Because of gradual outset and slow progress of the affection, the distribution of the paralysis and atrophy, the fibrillary twitching and reaction of degeneration, the case undoubtedly belongs to the Aran-Duchenne type or myelopathic form of progressive

muscular atrophy. In addition to these symptoms, he has almost complete paralysis of the third nerve on the right side, the Argyll-Robertson pupil in the good eye, and knee-jerks. Although he has practically no inco-ordination, the case is without doubt one of tabes. That is, the patient has a combination of two diseases—locomotor ataxia and progressive muscular atrophy.

From the time Cruveilhier, in 1832, described muscular atrophy in tabes, the affection has been mentioned and noted. As progressive muscular atrophy as an entity was not described until 1836, and was not given a nosologic position until the description of Aran in 1850, and by Duchenne later; as tabes did not exist as a separate affection until it was described by Romberg, in 1846; as inco-ordination was not separated from paralysis until 1858 by Duchenne, the significance of loss of the knee-jerk was unknown until 1870, and the Argyll-Robertson pupil still later, the earlier causes of this combined affection must be taken with several grains of salt. Still, for instance, Duchenne in his book gives a description which is sufficiently typical, and a few cases are scattered through the literature. Localized atrophies in tabes are not so exceedingly rare. Cases have been reported in which the muscular atrophy has been found to be due to neuritis. Other cases have been reported in which there were undoubted changes in the anterior horns of the spinal cord. Some analogous cases of hemiatrophy of the tongue have been carefully posted, in which there was atrophy of the nucleus of the hypoglossus.

DR. EDWARD F. WELLS was very much interested in the case of membranous enteritis, or enterocolitis, reported by Dr. Patrick. He had recently been treating a patient, who had been under his observation for a good many years, and who had had an acute attack of rheumatism. The woman is now 45 years of age. The acute attack of rheumatism came on at the age of 17. From the history he believes it was distinctly a case of rheumatic fever. This attack left the heart slightly damaged. Since then, on several occasions, various joints would become affected, mostly the smaller ones, as of the fingers, toes, sometimes the wrist, and occasionally the elbow and shoulder joints. There was little or no fever attending these attacks, but there was increased rapidity of pulse, with much prostration. The last attack continued for about three months; joint after joint became affected, followed by slight swelling, tenderness, pain, and marked anemia. There were also intestinal symptoms, which were characterized by paroxysms of pain, with an imperative desire to go to stool at these times. On one occasion, in going to stool, she passed what she considered a tapeworm. She brought it to his office in a bottle. There was about fifteen feet of material in this bottle, the color of mucus with some fibrin in it. It was rolled up so as to be as large as the ordinary-sized lead pencil. It could not well be gotten out of the bottle with forceps without breaking it. He let it run out of the bottle, measured it, and it was approximately about one-sixteenth of an inch thick, and three-quarters of an inch to an inch wide. After the expulsion of this mass she was immediately relieved of all heart and rheumatic symptoms. This was about three or four weeks ago, and she has had no trouble since.

Another case he saw was characterized by a strong desire to go to stool. The patient was a man, 75 years of age, and nervous. When young, in Barbados, she had her first attack. The attack would begin with lack of appetite, general pains, aching, pain in some of the joints, but the pains were mostly abdominal. These continued for ten days or two weeks. During this time there were frequent passages of thin watery stools, with a large amount of mucus, after which she would be relieved of the nervous symptoms, and would resume her usual duties. These attacks have recurred at intervals of from three to six years. He has seen the patient during two attacks. Ten years have now elapsed without her having one.

SYPHILITIC CIRRHOSIS OF LIVER; DEATH FROM REPEATED HEMATEMESES.

DR. JOHN A. ROBISON reported this case. The patient entered the Presbyterian Hospital, under the joint care of Dr. John Little Morris and Dr. Robison, January 10. He was for many years a barber, but during the two years past was a law student. He was 36 years old, single, born in France, and his family history negative. He never had any serious previous illness, positively dénies venereal infection, drinks very moderately, and occasionaly indulges in dietetic excesses. He claimed he had been in perfect health until the night of Dec. 14, 1899, when, on his way home he fell against the corner of a cement stone injuring himself in the right hypochondrium, the injury in no way disabling him and being of an apparently transitory nature. However, the next day he had no desire for food, and complained of epigastric tenderness and a sensation of fulness in the region of the stomach after eating. December 29, about midnight, he was awakened by violent abdominal pain, and vomited about a quart of blood, consisting of blood clots and fresh blood unmixed with air. During the following twenty-four hours he had seven gastric and two intestinal hemorrhages. On admission to the hospital—two days after the hemorrhages—he complained of the following gastro-intestinal disturbances: anorexia, sensation of fulness after eating, occasional acid eructations, dull aching pain in the right hypochondrium and the epigastric region, constipation accompanied by tenesmus, and vomiting. He would vomit once in three or four days, and since the hemorrhages the vomitus has contained no blood, but ingested food and glairy mucus.

He was somewhat emaciated, his skin pale and sallow, the mucous membranes pale, edema of the ankles, but the scrotum free. The palpebral conjunctivæ were colorless and the ocular of a pearly-white appearance. Since the traumatism there have been frequent epistaxes. The lungs were normal, the apex-beat of the heart not visible, the area normal. A systolic soft-blowing murmur was heard, with the greater intensity at the apex, not propagated. On examination of the abdomen in the recumbent position, the superficial veins were visible, and the abdomen symmetrically distended. On palpation, the margin of the left lobe of the liver was palpable below, within 7 cm. of the umbilicus, and laterally within 5 cm. of either mammillary line. On percussion, dulness was obtained, laterally from the flanks to the boundaries of the umbilical region; below, from the pubes to the lower boundary of the umbilical region, where a tympanitic resonance was obtained. No nodules were palpable, but the spleen was. A puncture-cicatrix was observable midway between the pubes and the umbilicus, the mark of a former paracentesis. The patient stated that the symptoms of ascites rapidly followed the injury, and that within one week he had to be tapped and several pints of clear serous fluid were removed.

The urine was brownish yellow; acid, specific gravity 1022, amounted to 680 c.c. in twenty-four hours, and had no sugar nor albumin; solids, 34.8 grams; urea, 17.6 grams; granular casts in small amount.

Hematologic examination: red blood-corpuscles, 2,097,000; white blood-corpuscles, 6000; hemoglobin, 30 per cent.

During the first three days the patient was in the hospital his condition was good. The fourth day he suffered extremely from abdominal pain, the pulse was from 110 to 140, the respirations 26 to 40, the temperature 101 to 105 F. Morphia secured a good night's rest, and the fifth was characterized by a lessening of the severity of the symptoms, an epistaxis in the morning being the only additional one. The sixth was uneventful, with the exception of a severe epistaxis in the evening, accompanied by a rise of temperature to 104.6 F. The seventh, eighth and ninth days were without any additional symptoms, with the exception of a rapidly increasing ascites, the distress from this symptom being so great that paracentesis was performed and 3240 c.c. of a clear, light, straw-colored fluid withdrawn. At 4 p. m., January 20, the pulse was 88, the temperature 97 F., the respirations 28. At 10:30 p. m. the patient had a chill, the pulse at midnight being 136, the temperature 104.8 F., the respirations 36. January 21, at 2:30 p. m., he had an attack of hematemesis, followed in an hour by four more, the hemorrhage in all amounting to four quarts. The pulse was 128, weak but regular, the facies pale, and the patient slightly delirious. Astringents, morphia, and saline infusions were given and the Leiter coil applied over the abdomen. On slight pressure in the epigastric region there was increased tenderness. The superficial veins were not so plainly visible as before the hematemeses. January 22 there were hematemeses of six ounces at 5 a. m., 12 ounces

wenty minutes later, 1.5 ounces at 6:45 a. m., 14 at 12:30 . m., 14 containing many large clots at 1:30 p. m., and at p. m. there was a bowel movement containing white, solid ces with a large amount of dark blood. At 5:25 p. m. the atient died of exhaustion.

Clinical Diagnosis: Cirrhosis of the liver, enlargement of he spleen, edema of the extremities, hematemesis.

Anatomic Diagnosis: Syphilitic cirrhosis of liver with multiple gummas and fibrous perihepatitis, fibrous hyperplasia of the spleen and fibrous perisplenitis, dilation of the heart, varicosity of the esophageal veins with rupture, blood in the stomach and bowels, parenchymatous nephritis, left floating kidney, chronic gastritis, beginning arteriosclerosis of the aorta and coronary arteries, left fibrous pleuritis, double bloody hydrothorax, edema and emphysema of lungs, ascites, edema of lower extremities, anemia of all the organs.

The liver was somewhat enlarged, and its outer surface marred by nodular elevations and irregular depressions, as well as torn adhesions over certain parts. The margins were roughened by irregular undulations. It was brownish yellow in color, and rather elastic. Beneath the capsule were many yellowish nodules up to the size of small hazel-nuts. Cut into, they were seen to be somewhat irregular in shape and definitely outlined, with peculiar worm-eaten borders, light yellow in color, rather firm and not caseous nor definitely encapsulated. The liver cut with some increase of resistance. The cut surface was brownish yellow, the lobular markings not recognizable, and there were some nodules throughout the liver. The spleen was eight times its normal size, its surface impressed by small fibrous patches, and at its upper extremity a large area of fibrous thickening of the capsule. There were no nodules in the spleen. At the lower end of the esophagus were large varicose veins. There were small losses of substance in the mucosa overlying these veins, one of which was ruptured, and the site of rupture covered by a small yellowish mass resembling a thrombus.

Bacteriologic Examination: All the smears showed a number of large square-end bacilli, and the kidney showed also a short thick bacillus. Cultures on glycerin-agar, after forty-eight hours, from the lung showed several nearly colorless growths, smooth and glistening, and with regular outline; from the liver, showed a spreading moist white growth over the surface; from the kidney, heart and spleen they were sterile.

The interesting features of this case are: 1. The fact that the physical signs demonstrated that cirrhosis had existed for some time without any knowledge on the part of the patient that he was not in good health. 2. The traumatism interrupted the compensatory collateral circulation and caused rupture of the esophageal veins, producing rapid accumulations of fluid in the peritoneal cavity, and death from repeated hematemeses. 3. The denial, truthfully no doubt, of venereal infection, made the clinical diagnosis of syphilitic disease of the liver impossible, but the pathologic findings demonstrated the etiology of the disease. And these findings emphasize the importance of recognizing the great danger of rupture of the varicose veins in cases of cirrhosis of the liver. As one author has remarked, these patients have only the barrier of a sixteenth of an inch of fragile tissue between life and death. It is remarkable that the statistics as to the mode of death in this disease do not include a larger percentage of cases dying from hemorrhage.

Topeka Academy of Medicine and Surgery.

Topeka, Kan., March 5, 1900.

USES AND ABUSES OF MORPHIN.

DR. O. A. TAYLOR read a paper on this subject, dealing with some of the general principles which underlie its use and abuse. Its power to support life as a substitute for food is of great value, as is also its power to contribute to the support of the body as an auxiliary food. He exampled this by reference to the Orientals, who take their daily allowance of opium with no thought of dissipation, but simply as a food. There seems to be an increasing number in this country who take opium or its alkaloids simply to remove fatigue or to add to a slender food allowance. The food power of morphin is certainly great, and in circumstances of privations it has been shown to exist for horses as well as for man. Morphin is not in any sense a tissue builder, but simply serves the clinical purpose of making the lack of food less disastrous. One must always bear in mind the great danger of forming the morphin habit. In cases of profound enfeeblement due to the deprivation of food or loss of sleep, small doses, together with the natural restoratives, food and sleep, are of great benefit. But it is important that too large ones be not given, as the slightest development of narcosis is invariably followed by a harmful reaction. It also has an important use in hemorrhages.

Opium has achieved its more significant modern victory in case of heart disease. It is of especial value in mitral stenosis and mitral insufficiency, as it is in these cases that we see the appearance of general venous congestion as it begins in the lungs and extends to the entire body, manifesting itself by pallor, dropsy and cyanosis. Non-narcotic doses of morphin—about ⅛ gr.—seem to restore the disturbed balance in the circulation and most of the distress is readily relieved. The heart becomes more tranquil and the patient may enjoy the influence of a quiet sleep.

When death is inevitable, pain and restlessness, of which the patient is unconscious, but which distress the family, should be controlled by this drug.

Speaking of the abuses, he related a case of a child of 6 months, who had been given a few drops of tinctura opii, with nearly fatal results. In rheumatism the drug is misused in many instances, and through indiscreet use the physician leads the patient to form the opium habit.

He emphasized the necessity of making the diagnosis before using the drug or it will mask the real trouble and cause an incorrect diagnosis. He also urged against using it indiscriminately, and pointed out that one should never tell the patient that he is getting morphin.

DR. S. W. STEWART said that morphin, while not an article of food, acts as a support by decreasing the waste material. Slight doses have a tonic effect by stimulating the capillaries. It does not really increase the strength, but only soothes the sensation of fatigue. While diseases of the heart are frequently benefited by it, in asthmatic conditions it also acts well.

DR. W. E. MCVEY reported a case of a morphin fiend who used 30 gr. a day together with cocain. He considers that there is some tonic effect, and it is excellent in acute pericarditis, but dangerous in valvular disease of the heart, as it interferes with the primary circulation and slows respiration.

MICRO-PHOTOGRAPHY.

DR. R. S. MAGEE gave a demonstration on this subject with the camera on an inclined plane instead of horizontally, as is usually the case. This is simpler and a better light is obtained.

College of Physicians of Philadelphia.

Section on Ophthalmology, Feb. 20, 1900.

MENTAL DISTURBANCES AFTER OPERATIONS.

DR. WM. C. POSEY read a paper on mental disturbances after operations on the eye. Twenty-four cases of delirium were reported. In 19 of these mental symptoms developed after removal for cataract, in 3 after iridectomy and, in 2 after extensive wounds of the eye. The delirium occurred during the first twenty-four hours after the operation in 2, on the second day in 8, on the third in 6, and on the fourth in 2. No atropin was used in 6 instances; in 4 others it was not used until the delirium had manifested itself. It was noted that, previous to operation, there was no tendency to mental derangements except in 2 senile and in the traumatic cases. The delirium was at first mild, and afterward developed into active delirium, with hallucinations and ideas of persecution. The speaker believed the disturbances were largely psychic.

DR. GEORGE E. DE SCHWEINITZ said that the most pronounced case he had ever seen occurred in a man aged 59, on whom he had performed Förster's operation for the artificial ripening of the lens of one eye. On the second day maniacal delirium developed.

DR. M. W. ZIMMERMAN stated that, while a resident at the Will's Eye Hospital, he had seen numerous cases. The custom

at that time was to unbandage the sound eye and get the patient out of bed at the earliest possible moment.

DR. C. A. VEASY reported mental symptoms after 2 cases of operation.

DR. G. C. HARLAN thought treatment should be diversified to meet individual cases.

DR. W. C. POSEY referred to a paper by Dukes, who believed that the restlessness of old people is due to failing of the scavenger organs, causing high arterial tension.

THE STUMP AFTER ENUCLEATION OF THE EYEBALL.

DR. G. E. DE SCHWEINITZ read a paper concerning the preparation of the stump after complete enucleation of the eyeball. He referred to the different substitutes, such as opticociliary neurectomy, evisceroneurectomy, simple evisceration, implantation of a glass globe, abscission, etc. Of the various procedures he prefers Mules' operation. He condemned Czermak's dictum that sutures should be disregarded. His own method of preparing the stump is as follows: After insertion of the speculum, the conjunctiva is divided as closely as possible to the corneal margin; each rectus tendon is next exposed and caught upon a hook, as in strabismus, and secured with a double armed, black silk suture, which is knotted upon it. The eyeball is now enucleated and a small ball of gauze is inserted into the capsule of Tenon. Each rectus tendon is then drawn forward to the cut edge of the cut conjunctiva, and securely fastened with the ends of the same suture which had originally secured the tendon. The wad of gauze prevents hemorrhage. The capsule of Tenon should be united by interrupted sutures.

DR. G. C. HARLAN stated that at the Will's Eye Hospital it is the custom to bring the edges of the conjunctiva together with sutures after enucleation.

DR. H. F. HANSELL believes that operators uniformly endeavor to secure the stump on which the prothesis would rest, and by which it could be moved; but after a well-performed enucleation there is no stump.

FOREIGN BODIES IN THE EYE.

DR. CHARLES LUKENS, by invitation, reported a study of eighteen foreign bodies in the eyeball; in sixteen instances an attempt to remove the metal was made. In one a piece of steel had remained quiescent in the vitreous chamber for twenty-six years.

DR. G. E. DE SCHWEINITZ described a foreign body—metal—which had remained quiescent in the choroid of a practically blind eye for eighteen years when, without apparent cause, iridocyclitis began and threatened the other eye. The body was accurately located by the Röntgen rays, according to Sweet's method.

DR. CHARLES A. OLIVER spoke of one of the cases referred to in Dr. Luken's paper. The location of the foreign body was determined by the direction of the scotoma, and confirmed by the X-ray.

DR. WILLIAM M. SWEET spoke of certain cases in which foreign bodies had been removed from the vitreous chamber some time after entry. In three instances good vision followed. The Hirschberg magnet was employed. He exhibited photographs illustrating the apparatus.

DR. M. W. ZIMMERMAN referred to a case where a piece remained in the anterior portion of the vitreous for many years, without causing inflammatory symptoms.

DR. H. F. HANSELL spoke of a boy who was struck in the eye by powder grains and sand, breaking the capsules of the lens, which were subsequently forced out; afterward, with cataract glasses, his vision was normal.

STUDY OF CHANGES IN REFRACTION IN 400 EYES DURING SEVEN YEARS.

DR. H. F. HANSELL tabulated 200 consecutive patients with refraction, from his private case-book, who had returned for a second examination in periods varying from two to sixteen years. Among the 400 eyes there were 249 hyperopic, of which 94 showed no change, and 114 myopic, of which 37 showed no change; 141 showed increase in their refraction, and 119 decrease. Among the hyperopes there were 69 decreases and 180 increases, while among the myopes 8 only decreased and 107 increased. Of the 34 eyes with mixed astigmatism, 28 changed in their refraction; the majority demanded an increase in the strength of the glasses needed for the correction of both the principal meridians. The 200 patients represented an equal number of both sexes, and the changes found were almost equally divided between them.

DR. B. A. RANDALL stated that probably a close examination of the cases in which the decreases, rapid in refraction, occur, would show that they did not extend over a series of years, but on the contrary occupied a comparatively short time.

PUNCTATE FUNDUS.

DR. EDWARD A. SHUMWAY, by invitation, reported a case of diffuse punctuate condition of the fundus in a colored woman, 35 years of age. There was a marked tendency to migraine in the family history. The entire fundus in both eyes was studded with closely aggregated, dull, yellowish-white spots, soft in outline, varying in size from that of a retinal vessel to several times that. There was no pigment in the retina. Fields showed no contraction nor scotoma, and there was no history of night blindness. It was thought that the change was of a colloid nature affecting the retinal pigment layer.

Philadelphia Neurological Society.

Feb. 27, 1900.

TABES DORSALIS IN NEGROES.

DR. A. P. FRANCINE, by invitation, reported two cases of tabes dorsalis in negroes—a husband and wife. The man, 48 years of age, a barber, denied that there was intermixture with the blood of the white race. At the age of 17 he had a hard chancre, and was given specific treatment. There had been no secondary eruption. He was of temperate habits. About five years ago he began to suffer from defective vision. In 1895 the diagnosis of tabes was first made. At this time the gait was ataxic and girdle pain was present. He also complained of numbness of the soles of his feet, difficulty in micturition, and dyspnea. The knee-jerk and plantar reflexes are now completely gone. He is unable to walk in the dark. The eyesight is characteristic of tabes.

The woman was 52 years of age, and her family history negative. She also denied intermixture with blood from the white race (?). She has had three children, the last one being stillborn. The symptoms seem to date back to 1899, when she observed that she became tripped up easily, and had difficulty in walking. At this time she also complained of a sense of constriction about the abdomen. The knee-jerk is entirely lost, and there are areas of anesthesia on the breast. She is unable to walk in the dark, and the eyesight is characteristic.

Twenty-two such instances are on record, but in all the disease occurred in whites.

DR. J. H. BERKELEY, of Baltimore, gave it as his opinion that at the present time diseases of the nervous system are becoming more common among negroes. Especially does this seem the case with such as dementia paralytica.

DR. C. W. BURR had previously seen the man reported, and thought the condition undoubtedly tabes.

DR. J. MADISON TAYLOR had also seen him. He believes, however, that both patients showed evidences of intermixture with the white race.

DR. F. SAVARY PEARCE several years ago reviewed the history of tabes, and found 194 cases, among these only two in the negro.

DR. WM. G. SPILLER spoke of the experiments made by Kraft-Ebing, who endeavored to infect cases of dementia paralytica by inoculation with the virus of syphilis, but with a negative result.

INJURY OF THE SPINAL CORD.

DR. C. W. BURR presented a case with diffuse injury of the cord. The patient, a woman, eighteen months previously suddenly became unconscious and fell to the floor. The attack was followed by paralysis of the right arm and leg. Later, palsy developed in the shoulder. On the right side the sense of touch is entirely destroyed, and there are certain sensory disturbances present on the left side. On the right, the knee-jerk is quite pronounced, and a few taps will produce a violent tremor in the extremity, lasting for several minutes, but stopped by flexing the leg. The same phenomenon is present on the left side, but not so marked. He last year performed an autopsy in a similar case but found nothing abnormal.

DR. F. X. DERCUM had seen this case at the Philadelphia

Hospital, and believed it presented certain features of syringomyelia.

PARALYSIS AGITANS.

DR. WHARTON SINKLER presented two cases of this affection. The first was a man of 52, whose family history was negative. About two years ago he began to suffer with a feeling as if ants were crawling over the lower extremities, and later the arms suffered. The tremor of the hand is quite marked. The second patient was a man of 44 years, who, while working, suddenly had the right foot make a misstep and the whole right limb went through an opening in the floor, and he fell, striking on the perineum. About an hour later he walked home, without much difficulty, only complaining of some lameness. The leg afterward became paralyzed. He has never had convulsions. About five years ago a lump developed in the lumbar region, the size of a hen's egg, and an operation was done.

DR. J. MADISON TAYLOR spoke of the good results obtained from physical culture in cases of paralysis agitans.

TACTILE BLINDNESS.

DR. JOSEPH SAILER presented a man who gave a history of having had, several months ago, a spell of dizziness. At the present time he has inco-ordination of movement. On being blindfolded and having a silver dollar placed in his right hand he is at a loss to know what it is, but when placed in the left it is recognized readily.

CUTANEOUS AND SENSORY ANESTHESIA.

DR. HENRY J. BERKELEY, by invitation, read a paper on the pathologic findings in a case of general cutaneous and sensory anesthesia. In this case there had been a history of syphilis, and an attack of arthritis. In 1889 he began to suffer from tingling in various parts of the body. Later vomiting occurred. All the sensory functions became disturbed. The cutaneous reflexes were all abolished. Later the right knee-jerk was diminished, and still later the knee-jerk on the left side became affected. Beginning cataract was found in both lenses. There was diminished secretion from the buccal and lacrimal membranes. In 1891 purpuric spots developed. There had been no delusions and no hallucinations. In 1899 the eye showed retinal pigmentosa. In 1898 the patient became lethargic, and afterward death occurred. The autopsy findings showed most of the large arteries slightly atheromatous. Both kidneys were atrophied. All the nerve tissues were examined, including the brain. One of the most marked features found was extreme thickening of the arterial walls, most marked in the media, which was enormous as compared with the intima and adventitia. The vessel walls of the gray matter of the cord were thickened. The arteries of the skin showed the same changes as noted in the brain and cord. All the pathologic ones were those of atrophy. The Nissl bodies were well stained. There were few changes in the cerebellum, but the optic nerve showed marked ones. There were none in the neuroglia cells.

The Johns Hopkins Medical Society.

Baltimore, Md., March 5, 1900.

INHERITANCE OF DEAFNESS.

PROF. WM. K. BROOKS read a paper on this subject. An abstract of his views has already been given in THE JOURNAL (January 13, p. 124).

THREE MONTHS' CHILD WITH CAUDAL APPENDAGE.

DR. W. T. WATSON exhibited a white infant presenting this anomaly. The appendage projected from the lower end of the vertebral column, but contained no bone nor cartilage. It was 2¼ inches in length and consisted of two segments of equal length, tapering to a point at the end. It possessed the power of movement, contracting to one-half inch, and also curling upon the child's back, but always in such a way that the same surface which faced the anal region also, by a twisting motion, faced the sacral. The distal segment was white, while the proximal was of a dull-pink color. It contained no hair. In its flaccid state it curled somewhat inward toward the perineum. The child was otherwise normal.

Professor Brooks remarked that the natives of South America assert that we wear clothes in order to conceal our caudal appendages. It is not necessary to regard the anomaly in question as a reversion to an earlier type. It seems more natural to regard it as a persistence of an embryonic condition, embryos being known to have these caudal appendages normally.

CYSTIC KIDNEYS.

DR. WILLIAM OSLER exhibited two enlarged kidneys—the left immensely enlarged. They were removed post-mortem, from a woman who was in the hospital, suffering from enlarged heart, arteriosclerosis, hematuria, and tumor-like enlargements in the renal regions. There was a trace of albumin, but only once were tube casts found in the urine; the specific gravity never rose above 1010. Both organs were filled with cyst-like cavities, some an inch in diameter. The interstitial tissue was increased. The condition is very rare and has not been determined.

DR. W. S. THAYER showed a similar specimen, from a patient with similar symptoms.

DR. W. G. MCCALLUM, for purposes of comparison, showed a fetal cystic kidney. Other organs of the same fetus showed the cystic tendency and there were supernumerary fingers and toes.

POST-OPERATIVE GLYCOSURIA. SIMULATIVE NEPHRITIS. MALINGERING MELITURIA.

DR. T. R. BROWN reported three cases of temporary glycosuria following operations in which ether was used as the anesthetic. Examination of the urine after operation seems to have been neglected, and there is but bare mention of the above occurrence in the text-books, etc. He also called attention to symptoms of acute nephritis following a nephrorrhaphy. The third case occurred in a hysteric woman in the hospital, in whom the presence of cane sugar in the urine was traced to her having added to her urine, for purposes of deception, the sugar brought her for use in her tea; as she also had polyuria at the same time, her deception succeeded for a time.

Denver and Arapahoe Medical Society.

Feb. 12, 1900.

PNEUMOTHORAX.

DR. ALFRED MANN exhibited a man, 32 years old, of good physique and without a family history of tubercular trouble. In February, 1899, an attack of la grippe was followed by gradual loss of flesh and strength, until at the end of September he was advised to leave his home, Milwaukee, Wis., and remove to Denver.

While sitting in the railroad station in Chicago, waiting for his train, he suddenly became short of breath, felt hot and cold by turns, and began to have a severe, choking cough. Nevertheless he boarded his train and arrived in Denver after thirty hours of severe suffering. On the evening of his arrival the temperature was 104, pulse 122, respiration 40 to the minute, the countenance livid, and his lips and finger-nails blue. Under the free use of strychnin, atropin, spartein and oxygen the temperature came down to 102 F., but the pulse grew slowly weaker and more rapid during the next few days.

On October 4 a small trocar and canula were inserted and the accumulated air allowed to escape. In a few days a slightly turbid serum began to accumulate. In the course of the next four weeks 112 ounces of the same kind of fluid were withdrawn in four operations. At present, 4½ months after the onset of the pneumothorax, there seems to be no further accumulation of air or fluid, the condition having been apparently stationary for about two months. The right half of the chest is without respiratory movement, and the expansion of the left side is exaggerated. Over the right apex down to the fourth rib there is dull tympany merging, at the fifth rib in the mammillary line, into dulness continuous with that of the liver. This marked dulness extends entirely around the right half of the chest, at about the same level. Weak, blowing breath sounds are heard in the right apex, and numerous fine râles after coughing. The coin sound is nowhere to be elicited. The vocal resonance is increased in the apex, and diminished in the dull area below. The patient is coughing less as time goes on, and the expectoration is slowly diminishing. He walks miles with perfect ease, but is short of breath when he walks rapidly. He looks well, has a good color and feels strong, though he has not regained his normal weight. He now weighs 140 pounds.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, MARCH 17, 1900.

EPIDEMIC CEREBROSPINAL MENINGITIS.

Epidemic cerebrospinal meningitis may be defined as an acute, infectious disease depending on the activity of the micrococcus intracellularis meningitidis, with localization in the cerebral and spinal membranes. From other varieties of meningitis it differs, among other things, in its specific character, but, strange to state, the disease appears to be contagious in only slight degree, for observation has shown that its distribution in a community is, as a rule, rather widespread, and that it does not generally attack many members of the same household, if more than one. Further, isolated cases appear from time to time in some communities. It is thought that the nares may be the portal of entry for the causative factor of the disease, which passes thence along the sheaths of the olfactory nerves. The epidemic disease differs from other varieties of meningitis additionally in the fact that a local lesion or preceding or associated infectious disease is probably not essential for its development. The disease occurs principally in the winter and the spring and particularly under conditions of overcrowding and filth. The mortality varies in different epidemics, although the prognosis is by some considered more favorable than that of meningitis dependent on other exciting factors than the meningococcus.

Some interesting facts are brought out in the report of an epidemic of cerebrospinal meningitis observed by Berdach[1] and occurring between the months of February and September, 1898, in a small mining town of Hungary, with a population of 8500. The disease proved of great severity and was widely disseminated, although there had been no previous outbreak in the vicinity for nine years. One hundred cases in all were observed, 72 of which were severe and clinically well characterized, and 28 abortive. The mortality was 45 per cent. Of the 72 severe cases the youngest patient was 3 weeks old and the oldest 58 years. The majority of cases occurred in young persons. The largest number in any quinquennial period occurred between 20 and 25 years—16; between 1 and 5 years there were 13. The largest number of fatal cases in any quinquennial period occurred also between 20 and 25 years—11; between 1 and 5 years there were 10. Of the severe cases 24 were in males and 48 in females, and of the deaths 14 occurred in males and 31 in females. In some of the dwellings there was great overcrowding and want of cleanliness. The disease exhibited migratory character, appearing successively at remote points. One case occurred in each of thirty-four houses; 2 in each of nine; 3 in each of four and 4 in both of two. The cases were rather evenly distributed throughout the community. The town is situated in an enclosed valley. The season was one of mild weather and the soil was not marshy. There occurred, between February 14 and 28, 11 cases; during the month of March, 26; of April, 17; of May, 5; of June, 3; of July, 2; of August, 15, and between September 1 and 16, 3.

Three types of the disease were observed: hyperacute, protracted and abortive. The first occurred in the majority of cases, and the mortality was high. The attack lasted from four to eight hours to six days. In the cases of short duration the course was lightning-like and the irritative symptoms were soon followed by depression of the mental functions. In the protracted cases the motor and sensory irritative phenomena were more prominent, and the stage of depression occurred only shortly before death. In the abortive cases the clinical picture was fragmentary, the physical and psychic symptoms slight, and the course rapid.

With regard to individual symptoms, patients complained, at least at the beginning, almost always of frontal or temporal, and later also of occipital, headaches, although scarcely any part of the head was not at some time the seat of pain. The headache was always paroxysmal, the frequency and duration of the attacks varying with the severity of the morbid process. The pain was sharp and cutting and persisted throughout the attack. The temperature proved variable and untrustworthy. In one case vomiting occurred throughout the attack, being unattended with pain or effort. In other cases, however, it was distressing and associated with retching. Sometimes it occurred after meals, while at others it was independent of food. It was a constant prodromal manifestation, usually persisting throughout the early part of the attack and ceasing toward the close. Next to headache, it proved the most troublesome symptom. The pupils were at times moderately dilated and at other times dilated to the maximum, while their reaction was sluggish or abolished. The involvement was usually bilateral.

Herpes was present in 8, or 90 per cent. of the cases. It bore no relation to the severity of the attack or to the prognosis, although it was of distinct diagnostic significance. It was preferably situated on the upper or lower lip, and was unilateral or bilateral. It also involved the tip of the nose, the skin over the malar bone, the lobule of the ear, the chin, the skin over the sternum, and in one case it was extensively distributed on the left thigh. It appeared early, most commonly from the fourth to the sixth day. Other cutaneous eruptions were uncommon, although the usual irritability of the vasomotor nerves was present, as exhibited in redness after even gentle pressure—tâches cérébrale. Rigidity of the neck was generally gradual in development, and when fully developed it persisted until death, or in cases

[1] Deutsches Archiv. f. Klin. Med., Bd. lxv, H. 5 u. 6, p. 449.

of recovery it receded slowly. Of pareses, that of the facial nerve was most common, and proved an important and reliable symptom. It was present in about 85 per cent. of the cases. It was almost again as frequent on the right as on the left. As a rule it was associated with hypoglossal paresis. Deafness was not observed during the attack, but it or deaf-mutism was a sequel in several cases. Occasionally paresis of the upper and lower extremities was observed, as well as of the bladder and rectum. Hyperesthesia of sensory nerves, especially of the ulnar, was often present.

Pneumonia was present in only one case; nor was pneumonia present in the community. Intestinal catarrh was present with varied symptoms. Acute rhinitis was observed almost unexceptionally in the prodromal period, and in some cases the micrococcus intracellularis was demonstrated in the nasal secretion, both microscopically and in culture. It was found also in the nasal secretion of healthy persons about the sick. Bronchitis was present only in the latter stages, the micrococcus intracellularis being found in one case and the diplococcus pneumoniæ in one; in the latter, however, the meningococcus was found in the meningeal exudate.

Among the sequelæ were pallor, a greenish-yellow color of the skin and emaciation. Occasional headache, as well as weakness and rheumatic pains in the extremities were frequently complained of. Impairment of hearing was common, and deafness resulted in three cases. Chronic hydrocephalus occurred in two cases and terminated fatally in the course of two or three months.

The treatment was purely symptomatic. The local application of cold to the head and the neck was attended with little benefit. Moist heat by means of affusions yielded scarcely transitory relief. Leeches often afforded temporary amelioration. Nervines and antipyretics—antipyrin, antefebrin, phenacetin, bromids, chloral hydrate—were wholly without effect. Sodium salicylate in large doses seemed to influence the attack favorably, but it often disappointed. Morphin injected subcutaneously proved superior to every other remedy, the dose being slowly and progressively increased. One patient was treated with this drug for three months without symptoms of intoxication and with eventual recovery.

ETIOLOGY OF MALIGNANT TUMORS.

The recent demonstration before the New York Academy of Medicine (THE JOURNAL, Feb. 24, p. 505), of the results of the year's work in the investigation of the etiology of cancer at the New York State Cancer Laboratory in Buffalo, introduces the very latest phase—what may be called an American phase—of this very interesting subject. The results of the studies of the laboratory seem to point to the conclusion that a yeast is the microorganism whose growth in the tissues somehow sets up sufficient irritation to cause the irresponsible overgrowth of cells that we know as a malignant tumor. This yeast is, at least as far as our present knowledge goes, the ordinary saccharomyces, so familiarly known because of its spontaneous development in sugar solutions whenever they are exposed to the air. Its seeds exist in the atmosphere the world over.

It is somewhat of a shock to the ordinary medical mind to be told that simple yeast is the pathogenic agent that is responsible for the most terrible affection to which human beings are liable. It is a matter of greater surprise to think that if yeast is really the cause of cancer that fact should have remained hidden for so long, despite all the investigation that has been devoted to this subject. It is only about seven years since it was first definitely known that yeasts—the blastomycetes of the botanist—could be pathogenic for human beings and animals. Busse discovered that certain tubercular, i. e., nodular, skin affections were due to a blastomyces. The organism, when inoculated into animals, produced tumors locally, and these sometimes gave rise to metastases. Some years afterward Roncali, at Rome, thought that he found a yeast in etiologic connection with internal cancer. He communicated his discovery to Sanfelice, who took up the investigation of the subject seriously. The latter soon believed himself in a position to announce definitely that blastomycetes were the cause of malignant tumors. The opinion seemed too improbable to the medical world and received little attention. Busse, the original medical blastomycetologist, who had reported the occurrence of blastomycetes in connection with sarcoma, became a strenuous opponent of the idea that yeast cells could ever cause a malignant tumor. They did sometimes give rise to tumors in animals, and these tumors sometimes gave metastases, the primary and secondary growths finally causing death, but the neoplasms in these cases were really composed of yeast cells and not of the tissue cells of the animal.

Thus the question remained until some recent observations by Sanfelice connected his work with the results of some cancer investigations in Great Britain. A good while ago Russell announced the almost constant presence, in cancer, of certain bodies which took the ordinary fuchsin stain very well. These so-called fuchsin bodies he considered to be connected causally with the malignant tumors. Fuchsin stains so many other parts of the tissues besides the supposed parasites, however, that Russell's claims were not substantiated by other observers. Plimmer detailed, in the cancer number of the *Practitioner,* the results of his observations on 1200 cases of that affection. In over 90 per cent. of the cases he found appearances that seemed to him to indicate the presence of a parasite. Sanfelice's most recent investigations connect his blastomycetes with appearances in cancer tissue that resemble the bodies described by Russell and Plimmer.

Here is where the latest American work comes in. Using a modification of Sanfelice's technique, they have been able, at Buffalo, to note appearances after the inocu-

lation of animals which very forcibly recall Russell's descriptions, and are evidently kindred to those of Plimmer. In one case at Buffalo, after finding these bodies in an intraperitoneal cancer, they have been able, by means of an injection of some of the cancerous material, to produce a true adenocarcinoma of the breast in an animal. Other inoculations have not been so successful, and only atypical tumors have resulted.

The results obtained so far are, even considering their paucity, extremely interesting. Let us hope that the American inventive spirit, so successfully applied to everything it undertakes, is at least about to invade the large and inviting field of medical discovery in cancer etiology. Meantime it must not be forgotten that Busse, who first demonstrated the pathogeneity of yeasts for man scouts the idea of their connection with malignant tumors, and has written extensively to show that the appearances described in the epithelial elements of cancer can not be due to blastomycetes, but are probably degeneration products. Visitors to Rome, who have seen Russell's specimens, have not been as a rule impressed with the claims in that regard, presented by the father of the idea that blastomycetes are the etiologic factor in cancer. We are still far from a definite solution of the great problem of pathology. Professional opinion must await further proof before there can be any enthusiastic reception for the yeast theory of cancer.

MICRO-ORGANISMS IN TUMORS.

The unsolved etiology of tumors is the subject of continued investigation in many different laboratories. In a recent article Podwyssotski[1] refers to the apparent hopelessness of demonstrating satisfactorily the parasitic nature of many cellular inclusions in human and animal tumors. He reports some experimental injections into various animals with pieces of parasitic, tumor-like growths upon cabbage and similar plants. The name of the parasite in question is plasmodiophora brassicæ Woron, and it belongs to the myxomycetes. The resulting growths in the animals experimented on were of mesodermal origin and resembled, in the progressive stage, large round-celled sarcomas; the growths developed especially in the perivascular spaces, and were formed largely by proliferation of the fixed cells. Spores of the parasite just mentioned were found united in smaller or larger plasmodial masses within the new cells; in many cases the cells were so distended that they ruptured and underwent disintegration. Giant cells also formed around free groups of spores. On account of the presence of mitosis in many of the cells containing spores, it is claimed that the parasite induces nuclear proliferation. Intracellular spores appear to deposit small fat globules in the cells, which then assume a characteristic, vacuolated appearance, the fat globules being arranged around vacuoles that represent spores. Podwyssotsi found similar vacuolated and fat-beladen cells in a malignant sarcoma of the abdominal cavity and various organs of a child. Small round bodies were found in the vacuoles. Based on the facts mentioned, he would conclude that large cells in sarcoma and other malignant tumors are phagocytic cells.

Now it is quite clear that the results obtained by Podwyssotski in his experiments have but an exceedingly limited applicability to the question of etiology of true tumors; the growths that he produced in animals were evanescent and presented none of the specific characteristics, clinical or anatomic, of real tumors. It is indeed surprising to find investigator after investigator produce inflammatory growths with various organisms experimentally injected, and then apply the results thus obtained to the explanation of carcinoma and sarcoma. Interesting as experiments of this kind are, they manifestly, for the present, at least, have no further bearing than on the pathogenic action of the organisms used.

Nils Sjöbring, who was one of the early advocates of the coccidian nature of the apparently parasitic cell inclusions in malignant tumors, now gives the results of his more recent studies.[2] Experimental implantation of human carcinoma in dogs gave no conclusive evidence as to its nature. The appearance of large numbers of safranophile, intracellular bodies in the connective-tissue cells of the capsule that formed around the masses seemed interesting. Sjöbring's culture experiments gave better results. He used a medium of peptone-gelatin and ascitic fluid to which was added 1.5 per cent. of a concentrated watery solution of potash soap made with human fat. The tubes were inoculated with small pieces from intact, non-degenerated tumors, and placed at 37 C. for a week or longer. Cultures from thirty tumors of different kinds—carcinoma, sarcoma, ovarian cystoma, goiter, uterine myoma—gave mostly positive results; those from carcinoma of the skin were often sterile. Different morphologic forms appeared, but only one kind of organism from each tumor. The organisms are described as exceedingly variable in form and so delicate as to render fixation by any known method impossible, and examination of hanging drops the only feasible plan. The organisms are thought to belong to the rhizopoda, but no attempt is made to determine species. They occurred in the cultures in three principal forms with numerous transitional appearances: ameboid forms, more typical rhizopodal forms, and involution forms. Subcultures do not seem to have been made. Some cultural forms correspond fairly well with the cell inclusions so often described in the microscopic sections, the involutional forms—or possibly lasting forms—much resembling Russell's fuchsin bodies.

An essential part of Sjöbring's work is the production of apparently genuine tumors by the inoculation of white mice with organisms in culture. The number of experiments—8—is small; of these four were "successful." 1. Subcutaneous injection of a fourteen-days-

[1] Cbl. f. Bakt., 1900, xxvii, 98.

[2] Cbl. f. Bakt., xxvii, 129.

old culture from a carcinoma of the mamma followed in three months by the development of a typical cylindric-celled carcinoma—no metastasis. 2. The inoculation was followed by the formation of a cyst with an epithelial lining with downgrowths of epithelial cells. 3. Intraperitoneal injection of a culture one month old, from a colloid carcinoma of the ovary was followed by multilocular cystoma in the abdominal cavity of a male mouse; the cysts were lined with cylindric epithelium and originated in the epididymis. 4. A sebaceous adenoma developed at the point of inoculation. In all these experimental tumors were present parasites like those in the human tumors. Sjőbring does not think the tumors in the mice could well be spontaneous, because no other tumors ever developed spontaneously among the animals in the laboratory, because the growths occurred at or near the site of injections and consisted of epithelial proliferations. White mice are the only animals mentioned as susceptible.

This work must receive corroboration from various sources before the results obtained by Sjőbring can be regarded as conclusive. The results of the animal experiments are certainly suggestive, though as yet the experiments are too few in number. Carcinoma with metastasis has not yet been produced. It is of interest to note that Sjőbring brings the micro-organisms of tumors back again under animal parasites, this time probably the rhizopoda. Ten years ago the "cancer parasites" were regarded as coccidia. More recently the blastomycetic theory has held sway. An organism, whether animal or vegetable in its nature, that can lay claim to producing a tumor, malignant or otherwise, would receive the greatest consideration, if it could be shown that it actually produces in animals, genuine tumor growth, clinically and anatomically. Sjőbring's organisms seem in a measure to meet this requirement, but his work needs confirmation and elaboration.

GANGRENOUS DERMATITIS IN TYPHOID FEVER.

Especial attention ought to be called to the recent report of Stahl,[1] of a remarkable series of cases of gangrenous dermatitis in typhoid fever. In 144 cases of typhoid fever 10 presented this, the rarest of complications. The dermatitis occurred in varying degrees of severity. Three of the 10 patients died. The trunk was the most frequent seat of the disease, but the face, the arms, and the thighs were also affected, and in the two autopsies held the scrotum was gangrenous. In one case a foot was lost. As regards the cause the facts at hand speak in favor of thrombosis and embolism. In two fatal cases there were infarcts in the kidneys and other internal organs. The grave anemia, the development of the gangrene after the severest period of the fever, the feebleness of the heart, arteriosclerosis in many of the cases—all support the theory of vascular obstruction, possibly on the basis of an infectious or toxic endangitis. The bacteriologic examination showed staphylococci in the unbroken vesicles, and these microbes with numerous others in the ulcer examined. It is of interest to note that all these cases occurred in soldiers from the late war.

[1] Am. Jour. of Med. Sci., March, 1900.

SYMPTOMS OF CEREBRAL PRESSURE IN THE COURSE OF TYPHOID FEVER.

Cerebral symptoms constitute rather a common feature of typhoid fever, though they appear to be both less frequent and less severe when the cold-bath treatment is employed. Their occurrence may be attributed to three factors: 1. A purulent meningitis due to typhoid bacilli. 2. The action of toxins; *a*, in the presence of low spinal pressure; *b*, in the presence of intrameningeal exudation. Having observed, in a number of instances, that in the initial stage of typhoid fever the site of entrance of the optic nerve presented an appearance suggestive of increased cerebral spinal pressure, Salomon[1] was led to undertake measurements of this pressure by means of lumbar puncture. The condition was not one of marked papillitis, but the papillæ appeared obscured by a veil or mist, with capillary injection, blurring of the margins, particularly on the temporal aspect, and fulness and tortuosity of the veins. In four patients examined the cerebrospinal pressure was found quite high, and the puncture was followed by relief of the headache, with general improvement. The fluid obtained contained albumin and leucocytes, but it was found sterile on culture. Its coagulability was not increased and it did not cause agglutination and sedimentation of typhoid bacilli.

[1] Berliner Klin. Woch., February 5, p. 117.

CONSUMPTION AND COMMON SENSE.

As an illustration of extremism, one may quote the recent utterance of a reverend member of the board of trustees or aldermen of Redlands, Cal. He is reported to have said: "If I were to choose between a town having saloons (and no one will question my being a prohibitionist) and a town where consumptives are as numerous as in Redlands, I would choose the city with saloons in which to bring up my family." People may differ in their opinions as to saloons. There are some who think they are a good thing, and speak and act accordingly, but for a clergyman and a prohibitionist the above statement is certainly extraordinary. It shows how far the panicky dread of consumption has grown in certain sections, favored by the extreme statements of medical men in regard to this disease. In this as in other matters of defense from any evil there is no good resulting from undue fears and overestimation of the enemy. Consumption is a sufficiently formidable disease, but some of the present tendencies of medical ideas in regard to it have apparently given rise to an epidemic of popular hysteria on the subject. And as fear lessens resistance, we can safely reckon on a certain amount of aggravation of the condition from this cause. Just as much good can certainly be done by other methods than scaring the susceptible to death. A little common sense, which is often badly needed, would not interfere disastrously with the success of our strife with tuberculosis.

LEGISLATION IN OHIO.

According to the newspapers, the Love bill to regulate the practice of medicine in Ohio has been amended so as to exclude newspaper advertising as a ground for annuling a license, and to permit counter-prescribing by druggists. Thus, two influential elements of opposition, the newspapers and the druggists, have been silenced, and it is thought probable that the bill may pass. In fact, some of the newspapers that were before unfavorable are now advocating its passage. So far as learned, the osteopaths and faith curers have not succeeded in their efforts, and it is not more emasculated than perhaps might be expected. On the principle that half or three-quarters of a loaf is better than no bread, we can still congratulate our Ohio brethren. We trust that the beneficial workings of the law, as it is to be, will be so evident to the Ohio public that at some future time, not too far ahead, it will see the utility and need, to use a colloquialism that seems especially adapted to the case, of taking in a little more of the slack.

GOITER OF SYPHILITIC ORIGIN.

Enlargement of the thyroid gland may often be observed in the early stages of syphilis, and it appears not to be directly influenced by antisyphilitic treatment, gradually and slowly receding like enlargement of the lymphatic glands. Suppuration, diffuse interstitial inflammation, gummata and hemorrhage may occur in the thyroid gland as manifestations of hereditary syphilis. Cases are on record in which myxedema has appeared to be of syphilitic origin. Further, circumscribed nodular infiltration and gummata have been found in the thyroid gland in cases of syphilis. A case of unusual character in this connection has been reported by Wermann.[1] A man, 24 years old, with a history of syphilis, for which he had at different times received treatment with mercurials and iodids, developed, six years after the primary infection, progressively increasing enlargement of the thyroid gland, while still taking potassium iodid. There were no nodules and no dense infiltration, and the condition appeared to be one of simple hyperplasia. Improvement soon ensued on the use of mercurial inunctions followed by the internal administration of mercurous iodid. An intermission in the treatment was followed by recurrence of the symptoms. The complication is considered a manifestation of secondary syphilis, on account of the acute course, the softness and the uniformity of the swelling, the prompt action of mercury and the inutility of potassium iodid.

PROPOSED LEPER LAW.

A draft of an act for a national leper law has been submitted for approval to the various state boards of health. It provides first for a commissioner on leprosy, who shall be a leprosy specialist, a regularly educated physician of at least ten years' experience in the practice of medicine and with a particular experience in a leper community. He is to be appointed by the President, and the salary is to be $5000. He must annually meet the president of each state board of health, their traveling expenses to be paid out of the treasury. It also provides for the establishment of a national leper home in the Yellowstone Park, or some other interior portion of the public domain, to be under control of the United States Marine-Hospital Service, where lepers can be cared for at Government expense. It regulates the life of lepers outside under state or private care, and adds to the existing regulations as to the immigration of foreign lepers, etc. It is a question whether leprosy, which numbers among its victims only a few hundred at most in this country, is a sufficiently threatening danger to warrant or call for the elaborate and expensive provisions of this bill. Our immigration laws, if properly amended and enforced, ought to protect us from an influx from the outside, and the one—possibly more—local focus of the disease is a proper subject for local regulation. Leprosy does not seem to flourish here. New cases that originate among us certainly are rare, and those we have with the disease have been almost exclusively from without in the greater portion of the Union. We may need some additional legislation to meet the conditions arising from our new tropical possessions, but that can be easily managed. These are opinions based only on the facts as known to us to exist; if matters are much worse than here assumed some such measure as the proposed one may be advisable. With present knowledge this seems hardly demonstrated. It may be said that prevention is better than cure, and that the threatening, though not yet existent, evil calls for this legislation. If that is certain then the proposed law is needed, but have we as yet the facts to support this contention? If not, it would be better to secure them beyond a possibility of doubt, especially when we have existing machinery that can do something in our defense.

SURGICAL TREATMENT OF SARCOMA OF THE KIDNEY IN CHILDREN.

Although not common, sarcoma of the kidney is by no means rare in early life, and in the not remote past the condition has been looked upon as hopelessly fatal. With the development of modern operative methods, however, not only has surgery become bolder, but its results are also more promising of success. In this healthful impulse, given to a progressive art, the surgery of the kidney has shared, and there are now on record a small number of cases in which successful operations have been performed for the relief of sarcoma of the kidney. The mortality of the operation is necessarily high, probably 38 to 40 per cent., and, although the number of recoveries is not large, still it would seem that when the growth has not formed too extensive adhesions or invaded adjacent organs or is unattended with metastasis, the alternative of operation should, at least, be offered, with the possibility of radical cure. To the slowly growing list of cases of this kind another is added by Morton,[1] in which, unfortunately, death resulted five months after a successful operation, from a cause wholly unconnected therewith or with the previous malignant disease. The patient was a child, 18 months old, presenting a large movable tumor on the left side of the abdomen, with the presence of blood in the urine. On opening the abdominal cavity the new growth was found to consist of a number of lobules, principally soft and elastic, but one

[1] Berlin Klin. Woch., 1900, No. 6, p. 122.

[1] British Medical Journal, February 3, p. 249.

of which was as hard as cartilage. The mass was shelled out of its connective-tissue capsule, its several attachments were ligated and it was removed. An opening was made in the loin for drainage. On histologic examination, the growth was found to be a sarcoma, with round and spindle cells, mixed here and there with well-formed glandular tissue. The further course of the case was uncomplicated, and the patient was dismissed, cured, after rather more than a month. Several months later, however, symptoms of tuberculosis made their appearance, and after the lapse of some months more, death occurred. On post-mortem examination the lungs were found full of minute tubercles, and the mesenteric glands were enlarged and caseous, but there was no local recurrence of the new growth.

IMMUNIZING VALUE OF DIPHTHERIA ANTITOXIN.

The antitoxin of diphtheria has now been on trial for nearly six years, and the early claims for its efficacy have not proved at all extravagant. According to the general consensus of opinion, based on cold logical statistics on an enormous scale, the mortality of the disease has been halved, reduced in fact from 40 to 20 per cent., and lower. Severe cases have been transformed into mild ones, operation has been avoided in many cases in which it would otherwise probably have been necessary, and cases in which operation has been performed have pursued a more favorable course than heretofore. The antitoxin has been shown to possess also distinct immunizing value, as has been demonstrated in the suppression of numerous epidemics. This prophylactic employment of the antitoxin has not yet received the general application that its utility makes it deserving of, and an earnest plea for the more extended use of the antitoxin for immunizing purposes is made by J. S. Billings, Jr.,[1] who points out that since the introduction of the antitoxin treatment of diphtheria in New York in 1896 there has been a steady reduction in both the number of cases of and the number of deaths from diphtheria each year to Jan. 1, 1899. During the latter year, however, both the number of cases and the number of deaths have increased. The records of the New York Department of Health show further that the antitoxin was used in a larger number of cases in 1899 than in 1898 and with as good or even better results. On the other hand, there has been a reduction in the number of cases in which immunizing injections of the antitoxin were made. H. M. Biggs, director of the bacteriologic laboratories of the New York Department of Health, has reported that of 3100 individuals immunized with antitoxin, but nine contracted diphtheria and these in a mild form. In the latter a minimum dose of antitoxin—150 units—was employed, and it is thought probable if a larger amount—from 300 to 500 units—had been used the immunization would have been perfect. There were reported during 1899, in the boroughs of Manhattan and the Bronx, 682 secondary cases of diphtheria in which the disease was contracted after twenty-four hours from an original case in the same family. It is computed that if the antitoxin had been employed to immunize these cases the total number of cases of diphtheria for 1899 would have been 7558 instead of 8240, and thus actually a smaller number than in 1898; and the number of deaths would likewise have been reduced from 1087 to 1026. Further, many secondary cases developed a week or more after the primary ones, so that if immunization were practiced with the desired thoroughness many additional cases and deaths would have been prevented.

[1] N. Y. Med. Jour., Feb. 17, 1900: THE JOURNAL, March 3, '7, p. 550.

FREQUENCY OF URETHRAL FILAMENTS IN URINE OF MEN.

The presence of filaments or threads in the urine has long been looked on as indicative of the existence of chronic gonorrhea in men, although it is a matter of dispute whether they are related to the intensity of the morbid process. By some, it is believed that so long as these structures are present, recrudescence is possible, and treatment should accordingly be directed toward their disappearance; while others consider them only as the evidence of a residual urethritis, so long as gonococci can not be demonstrated. Assuming that purulent flocculi persist for a varying time after an attack of gonorrhea, Brauser[1] made careful examinations of the urine in 300 patients admitted to a purely medical service, with the object of determining the frequency with which gonorrhea in men occurred in the community. The patients were between 60 and 70 years of age, and none was included in whom the possibility of a genito-urinary discharge due to other causes was present. In nine cases a discharge was found, and in fifteen more the first urine was turbid and purulent flocculi were present. A drop of secretion was present at the urethral meatus in about twenty-seven cases. Of the entire 300 cases, no flocculi whatever were found in 54—18 per cent.; only epithelial cells and shreds of mucus in 44—15 per cent.; filaments of mucus, epithelial cells and isolated pus-corpuscles in 39—13 per cent; and purulent filaments in 163—54 per cent. It thus appears that more than one-half of those examined presented positive evidence of existing inflammation of the lower segment of the genito-urinary apparatus, probably the residuum of a previous acute inflammatory process. The proportion at certain periods of life was found greater than for the whole number. Thus, between the ages of 26 and 30, it was 75 per cent.; between 36 and 40, 70 per cent.; and between 31 and 35, 60 per cent. These are the years during which gonorrhea is most common. Of the 300 cases a history of previous gonorrhea at varying intervals was obtained in but 36; but it is notorious that little reliance can be placed on statements in this connection. In spite of the greatest care, gonococci, however, were found positively in only ten cases, while in four others the conditions were merely suspicious.

[1] Deutches Archiv. f. Klin. Med., Bd. lvi, p. 618.

EXPERIMENTS ON HUMAN BEINGS.

Senator Gallinger, the ostensible sponsor of the anti-vivisection bill, already noticed in THE JOURNAL, has introduced another bill in the Senate which is in some respects remarkable. It is entitled "A Bill for the Regulation of Scientific Experiments upon Human Beings in the District of Columbia," and prohibits, under heavy penalty, all experimentation on human beings "involving pain, distress, or risk to life and health, whether by ad-

ministration of poisonous drugs for the purpose of ascertaining their toxicity, by inoculating the germs of disease, by grafting cancerous tumor into healthy tissues, or by performance of any surgical operation for any other object than the amelioration of the patient, except subject to the restriction and regulations hereinafter described." These restrictions and regulations are similar to those proposed for scientific vivisection, except that the intended victim must be of sound and consenting mind and give his written permission, duly sworn to and attested, and then if the commissioners are satisfied as to these facts and as to the purpose of the experiments, and that the risk does not involve danger to life, they may grant the permission, provided reports are duly made to them of the results. This law, so far as one knows, is a gratuity to physiologic experimenters, none of them having asked for this legalizing of human experimentation, and one finds it difficult to recall a parallel to it in legislation, all the more as its concluding section reads "that nothing in the act contained shall be construed to prohibit or interfere with any experiments whatever made by medical students, physicians, surgeons, physiologists, or pathologists *upon one another.*" (Italics ours.) If it had not gone through the regular process of reading and reference in the usual way in that sedate and dignified body, the United States Senate, it would pass for an attempt at a first-class joke by the antivivisectionists. Senator Gallinger, however, is not the consciously humorous member of the Senate, and it would appear possible that it might have been introduced by him in good faith. But we can not altogether resist the suggestion that some humorist has been making a cat's paw of him. It is just possible that he may have offered it to hedge on the chances of the other, the zoophile Galinger bill—a sort of tub to the whale of medical opinion. If that is the way his intellect works, he ought to be speedily enlightened.

Medical News.

DR. WM. N. BEGGS succeeds the late Dr. Axtell as editor and publisher of the *Colorado Medical Journal,* Denver.

THE DAILY school inspection has been so successful in its results in Milwaukee, Wis., that it is said the common council will pass an ordinance making provision for it as a permanent city institution.

THROUGH the efforts of the Roanoke Hospital Association, backed by the Norfolk and Western Railroad Company, Roanoke, Va., is to have a hospital. The building, near Crystal Springs, is to be completed in ninety days.

THREE PUBLIC school teachers in Fort Dodge, Iowa, recently submitted to the compulsory vaccination ordered by the school board and immediately thereafter went home and washed off the virus. In one case, however, the vaccination was a success.

DR. E. BRETSCHNEIDER, of St. Petersburg, has been awarded the gold medal of the Russian Geographical Society, for his works on China, especially his "History of European Botanical Discoveries in China." He was medical attendant of the Russian embassy at Pekin for seventeen years.

THE AUTHORITIES, according to *Presse Med.* of February 21, have ordered large and repeated doses of antitetanus serum to be administered in every case of declared tetanus that occurs in the French army. The order states that experience has demonstrated that the injections have a favorable effect in many cases.

IN OSHKOSH, Wis., examination of a number of milk tickets which have been in circulation for considerable time has revealed germs of diphtheria, etc. An order has been given that after March 15 only punch tickets shall be used, the purchaser buying them and having the quantity of milk taken punched out with each delivery.

THE COMMITTEE entrusted with the task of compiling a Codex Medicamentarius for the Argentine Republic has completed its work. The *Archives de la Policlinica* states that it is remarkable for the completeness of its descriptions, particularly in regard to the microscopic structure of the vegetable substances used in medicine and pharmacy.

THE SECRETARY of the Territorial Board of Health of Oklahoma has sent out a bulletin giving the facts and diagnostic points of chicken-pox and smallpox, as a guide to the local health officers and the public in aiding to suppress the existing epidemic of mild smallpox. It emphasizes the necessity of the observance of the most stringent precautions in every case of eruptive disease, and in particular those that have any resemblance to chicken-pox or smallpox.

THE FRENCH Government has created a new title, which confers the title of "Doctor of Pharmacy" on druggists who have passed a certain examination. The *Jour. de Med. de Paris* deplores the confusion that will necessarily result: "The public is always ready to believe that druggists are more than half physicians, and will be still more inclined to apply to them for prescriptions when the sign bears the title of Dr.—much to the detriment of the medical profession."

IN A recent address in the German Chamber of Deputies, Bosse commented on the high mortality among younger members of the university faculties in Germany, which—under 30 years of age—is three times the normal death-rate. He attributes it to the privations that many have undergone in obtaining their education, sapping their strength, and the strain of teaching twenty-two to twenty-four hours a week, with the efforts necessary to maintain the prestige of wisdom and experience expected of university instructors. After 30 the mortality rate is lower than the average.

A REPORT states that in the Prussian Diet, March 6, Baron v. Pappenheim referred to the claim that Professor Neisser of Breslau had inoculated persons with a certain loathsome disorder in order to establish immunity, previously noted in THE JOURNAL, and arraigned the medical profession generally for experimenting on human beings. Representatives of all the other parties indorsed the views of the speaker. Professor Virchow, however, came to the rescue, and stated that Professor Neisser only went too far in not obtaining the patient's consent, and further stated that without experimentation on living animals serum therapeutics would be impossible. The case against Professor Neisser was barred by the statute of limitation.

MEDICINES AS BEVERAGES.—The United States Commissioner of Internal Revenue has decided that the special tax of a rectifier and liquor dealer is not required to be paid for the manufacture and sale of blackberry

cordial, composed of blackberry juice and water with the addition of cloves, cinnamon, sugar and a sufficient quantity of alcohol to prevent fermentation, if this cordial is sold only under a label holding it as a remedy for diseases, and is sold in good faith for medicinal use only. This will apply to similar beverages, all of which hold a high reputation throughout the country for the cure of snake bites.

THE TRANSVAAL WAR.—According to the *British Medical Journal* of March 3, the number of officers and men killed in action, in the Transvaal War, up to February 24, was 1652, with 294 additional deaths from wounds—a total of 1946. To the same date deaths from disease there numbered 723, the latest reports showing a tendency to increase of this factor. A meeting of medical men was held in Birmingham recently to co-operate with the Central Committee in London in providing comforts for non-commissioned officers and men of the Royal Army Medical Corps, serving in South Africa. The *Journal's* fund for that purpose—half-crown contributions from physicians—amounted to over £101 on the 28th ult. A correspondent, writing of British and Boer ambulances, says the former "appear designed to combine the greatest clumsiness and the least comfort with the minimum of accommodation," requiring ten mules to draw them, while they carry two men lying and several sitting, but "jolt like a quarryman's dray." The Boer ambulances are light, strong, accommodate eight men lying down, are mounted on springs, and scarcely jolt at all. Treves, writing of the battle of Spion Kop, considers the wounds there much more severe than at Colenso, the larger number being from shell and shrapnel.

PLAGUE FINDINGS IN SAN FRANCISCO.—A suspicious case has been reported from the Chinese quarter in San Francisco, Cal., which looks as if it were possible that the much dreaded bubonic plague has actually entered our portals. Dr. F. P. Wilson, assistant city physician, who was required to sign a death certificate of a Chinaman who had died, found circumstances so suspicious that he immediately notified the health department, and a most rigorous police quarantine of that district was established. It was absolutely impossible to obtain any history of the man's illness, further than that he had been sick about one month and had had a diarrhea for one week, which was followed by constipation the last week of his illness. A bubo was found—non-suppurating—with considerable surrounding inflammation situated under Poupart's ligament on the right side. Lower down near the saphenous opening was another enlargement. There was no other glandular involvement and no petechiæ. The inguinal gland was excised and examined by the city bacteriologist, Dr. W. H. Kellogg. A smear preparation showed bacilli which looked "suspiciously like the bacillus pestis." Cultures were made and two guinea-pigs, one rat and one monkey inoculated. According to telegraphic advices from our correspondent, March 14, the guinea-pigs and rat died Sunday morning, the end of the fourth day after inoculation; the monkey Monday night. Autopsy on the guinea-pigs showed acute infectious disease, inflammation in the subcutaneous tissue, the spleen much enlarged, mottled, and an excess of fluid in the pericardium. The juice of the spleen showed some bacilli, which were also found in the lymphatic nodule from the Chinaman and in the blood from the heart. The post-mortem on the rat showed serious exudation in the subcutaneous tissue, enlargement, congestion but no mottling of the spleen, and excessive fluid in the pericardium, hemorrhage in the lymphatic nodules of the groin. The splenic juice contained bacilli, arranged in clusters, as frequently found with plague bacilli. Both animals showed intense inflammatory reaction at the point of inoculation. From gross appearances, the cultures from the Chinaman were reasonable plague cultures, the shape of the cocco-bacillus. They showed affinity to the thionin stain, and decolorized by the Gram method. The appearance of the cultures, toxicity and post-mortem appearance produced by that toxicity all indicate plague. No symptom nor appearance pointed in any other direction. The bacilli of septicemia in rabbits—hog cholera—while morphologically the same, do not affect rats. The experiments were conducted at the Federal quarantine station by Drs. Kinyoun, Federal quarantine officer, Montgomery, a prominent pathologist, and Kellogg, city bacteriologist. They concur in the opinion that the germ is that of the plague. A rigid examination of Chinatown is going on, and no new case has been discovered, while the quarantine imposed on that section of the city at the first report of the case has been raised.

The plague is now semi-officially recognized at Buenos Ayres. Twenty-three fatal cases have occurred, but on account of the extremely mild type of the disease, no apprehension of its becoming epidemic is felt.

PENNSYLVANIA.

THE GRAND jury which recently made an investigation of the almshouse at Norristown condemned the present management of that institution.

THE TRAFFIC in oleomargarin in this state has excited officers of the Government to keep a sharp lookout for all persons guilty of supplying this article as dairy butter. United States District Attorney James M. Beck has given warning to all persons that, within the past half year, he has brought no less than twenty-six prosecutions for this offense.

Philadelphia.

THE SELECT branch of City Council recently appropriated $35,000 for purchasing the lot adjoining the Municipal Hospital.

ON MARCH 8, Dr. H. A. Hare gave the first of the lectures for the benefit of the Cuban Orphan Society, his subject being the "Care and Nursing of Fever."

DR. MATTHEW WOODS recently gave an address before the Barton Cooke Hirst Obstetrical Society, on "Some of the Apparent Benefits of Invalidism."

THE PHILADELPHIA Medical Club recently entertained Dr. Charles G. Stockton, professor of medicine and clinical medicine at the University Medical School of Buffalo.

PROF. JOHN ASHHURST, who has for the past ten years held the John Rhea Barton professorship of surgery and clinical surgery in the University of Pennsylvania, has tendered his resignation to take effect at the end of the academic year.

A TEXT-BOOK committee of the Board of Education may secure revision of the school books on physiology and anatomy. The movement seems to have originated from the experiments of Prof. W. O. Atwater.

A PLAN is being effected which will doubtless culminate in the amalgamation of the Mount Sinai and Beth Israel Hospital associations. The result would be that but one Jewish hospital would be built in the southern portion of the city instead of two as contemplated.

THE ANNOUNCEMENT has been made of the gift to the University of Pennsylvania, of $5000 from Mr. Thomas S. Harrison to found a scholarship in the College Department restricted to the chemistry group, to be known as the Louise Harrison scholarship.

THERE IS a protest against the establishment of the Rush Hospital for Consumptives in a new location, said to be at Lehigh Avenue and Thirteenth Street. Representatives from

several churches have passed a resolution against the use of the new site, owing to danger from contagion.

TWO BALLOT boxes, used by the faculty in voting for the candidates for the degree of "Doctor of Medicine," when that method was in vogue at this institution, previous to 1830, have been acquired by the medical department of the University of Pennsylvania. In those days the professors knew all the students by name, and it was the custom to vote for the candidate in order that he might present himself for examination for the degree.

MUTTER LECTURESHIP.

The next course of ten lectures instituted by the late Prof. Thomas Dent Mütter, M.D., LL.D., on some "Point or Points in Surgical Pathology," will be delivered in the winter of 1902-1903 before the College of Physicians of Philadelphia. The compensation is $600. The appointment is open to the profession at large. Applications, stating, in full, subjects of proposed lectures, must be made before Oct. 1, 1900, to the Committee on the Mütter Museum. JOHN H. BRINTON, M.D., Chairman, Thirteenth and Locust Streets, Philadelphia.

TRAINED NURSES.

A meeting of trained nurses was held here March 10, to take action on the bill now pending in Congress, providing for "employment of woman nurses in military hospitals of the army," and previously mentioned in THE JOURNAL. The meeting was presided over by Dr. S. Weir Mitchell, and an address was delivered by Dr. W. W. Keen. Another movement has been formulated by a similar gathering looking toward the pensioning of nurses, disabled by age or disease. A fund of $1000 was given for this purpose some five years ago, but the matter has not been pressed to any extent. It is now claimed that the average period of a nurse's activity is ten years; and further, most nurses are seldom employed more than six months of the year.

OHIO.

IN THE LEGISLATURE.

A bill has been introduced in the Ohio Senate making it a misdemeanor punishable by fine to expectorate in any public place, provided a copy of the proposed act is posted. It is also said that the osteopaths are moving to introduce legislation for their benefit. If they can not get in under the Love bill by amendment, it is probable that they may attempt to have special legislation made in their favor. Dr. J. C. Culbertson, editor of the *Cincinnati Lancet Clinic*, is the author of the new "ripper" bill just presented before the Ohio legislature by Dr. T. W. Hendley. The bill provides for the consolidation of the school system of Hamilton County from the kindergarten to the University. If passed it will abolish the Board of Education, the Union Board of High Schools, and the University Board, their places to be filled by a commission of five, each receiving a compensation of $4000 yearly.

Cincinnati.

DR. EDWARD THOMPSON, Ohio Medical College, 1899, has been appointed resident physician to Dr. Holmes' Hospital.

AT THE annual examination for internes to the City Hospital, March 5, there were about twenty-five applicants for the eight positions.

AT THE regular meeting of the Board of Trustees of the Cincinnati Hospital, March 5, Dr. D. T. Vail was elected ophthalmologist to succeed Dr. George Goode, resigned.

THE SUPERIOR court, March 6, selected Dr. C. R. Holmes a member of the Board of Trustees of the Cincinnati Hospital, in place of Dr. John A. Murphy, deceased.

DR. KRESS, interne of the Good Samaritan Hospital, has accepted the position of assistant-surgeon to the Dayton (Ohio) Soldiers' Home.

RECENT CHANGES in Christ's Hospital staff are: Drs. H. J. Whitacre and Wade McMillan, surgeons, in place of Dr. D. D. Bramble, resigned; Dr. Otto P. Geier, microscopist, in place of Dr. Whitacre, promoted; Dr. Frank Kugler, pathologist, in place of Dr. McMillan, promoted.

AT THE meeting of the medical staff of the Cincinnati Hospital, March 10, eight of the twenty-three applicants for interneship were chosen, six from the Ohio and two from the Miami College.

A LEAKAGE in the gas pipes was the cause of a serious explosion at the Good Samaritan Hospital Annex, March 10. While many of the beds were badly shattered, and the patients severely shaken up, no one received any injuries. The damage will reach $2000.

NO DEATH from a contagious disease occurred here "last week"—an unparalleled record—according to the *Cincinnati Enquirer* of March 12. Those from consumption numbered 16, and 8 new cases were reported, also 39 new cases of contagious affections.

Toledo.

PHYSICIANS' PRIVILEGES.

An ordinance has been drawn up by the Toledo Medical Association, providing that physicians, ambulances, etc., shall have the right of way on the street. The physicians shall have a permit from the city clerk and wear a badge furnished by him that will give their vehicles preference in answering calls for their professional services. There is also provision allowing them to use the sidewalks for bicycles when the roadway is not paved or in fit condition to ride over with a wheel.

NEW YORK.

New York City.

DR. CHARLES MCBURNEY, who for over a dozen years has been the chief surgeon of the Roosevelt Hospital, has presented his resignation. The reason given is too great pressure of other work.

NOW THAT the bubonic plague has broken out in Yucatan, the health authorities have thought best to consider the means of preventing the importation of the disease into New York by the Mexican steamships. Health Officer Doty says that, from a personal inspection of the chief Mexican ports made a few months ago, he is confident that rigorous measures are taken there, and that the best methods and apparatus are used.

THERE WAS a representative gathering, the other evening, in the library of the Charity Organization Society, to discuss the matter of the state care of those afflicted with pulmonary tuberculosis. Representatives were present from most of the hospitals on Manhattan Island, as well as from others in the vicinity. A resolution, indorsing the bill now before the legislature, and urging its immediate passage, was adopted.

DEATH UNDER "CHRISTIAN SCIENCE."

This week brings a story of another needless death, the result of misplaced confidence in the powers of "Christian Science." The full details have not yet been made public, but, so far as known, they indicate that a woman, suffering from an internal tumor, was deluded into the belief that there was nothing the matter with her, and kept in torture for a year. It is asserted that had she promptly sought competent advice and treatment she would have been speedily relieved and life prolonged, and that she might even have been cured. Instead, she was forced to laugh at her own sufferings, which were cruelly spoken of as "imaginary," and her husband and friends kept in ignorance of the seriousness of her condition. A physician was not called in until two days before her death.

PREVALENCE OF INFLUENZA.

According to the statements of practicing physicians, and from an examination of the records in the bureau of vital statistics, it is evident that, during the past week or two there has been a decided increase in the number of cases of epidemic influenza. While the cases during the past few weeks have been few, as compared with the same time last year, it is evident that they are now becoming more numerous. Ever since the first of the year, pneumonia has been vastly more prevalent than for the same period last year, which is a little surprising when one recalls that in 1899 this was just in the midst of our visitation from la grippe. According to the records of the health department the fatal cases of pneumonia in the last three weeks of February were, in 1899, 151, 157 and 151, respectively, and for 1900, 203, 256 and 261. For the same period, the deaths from la grippe were 14, 16 and 11, respectively, in 1899; and in 1900, 11, 29 and 29. The death-rate for the last week was 26.76, as compared with 20.26 for the corresponding week in 1899.

ILLINOIS.

DR. LUCIUS F. FOOTE, of the Elgin insane asylum, is confined to his bed as the result of a beating received from an attendant whom he had reprimanded.

Chicago.

CONTRIBUTIONS for the hospital for consumptives now aggregate $16,376.

THE FIRST annual report of the German St. Anthony de Padua Hospital shows that, during the year, 820 patients were treated, 200 free.

SENIOR students of Rush Medical College are to visit Detroit, Mich., the guests of Parke, Davis & Co., March 22.

A WRIT of mandamus has been asked for to compel the Chicago Board of Education to admit, into school, a child excluded under the rule that those absent four days or more should submit to medical examination before readmittance.

AN ADDITION to the Alexian Brothers' Hospital, to contain 100 rooms, and the purchase of two adjoining blocks of land, are now under contemplation by the hospital authorities.

A FREE medical dispensary, under the auspices of the Englewood Bureau of Associated Charities, has been opened at 611 Sixty-third Street. The medical staff is composed of Frank Billings, Weller Van Hook, W. E. Schroeder, Frank X. Walls, Frederick R. Green, Harry Kahn and H. T. Tillotson.

DOWIE ABOVE THE LAW.

A girl of 13 died last week, of diphtheria, in the Dowie institution here. The body was moved to an undertaker's establishment, which was contrary to law, the death being the result of a contagious disease. According to the newspapers, the undertaker was excusable for thus accommodating the institution, because "Dowie is a good customer of his, and he can not afford to lose him."

MARYLAND.

DR. HARRY D. FAHRNEY has been appointed physician to Montevue Hospital for the Insane, at Frederick, Md.

THE LUNACY bill, as reported by the Judiciary Committee of the House, has undergone a complete change from its original form, as advocated by the Lunacy Commission. It will come up this week as a special order.

REPORT OF HEALTH BOARD.

The report of the State Board of Health for 1899 deals with vital statistics, local boards of health, infectious diseases, inspection of meats, typhoid fever, etc. While the statistics are acknowledged to be incomplete, they show the relations of the various diseases to each other, to seasonal influences, to age periods and to locality. The best registration area is in Cecil County. Cambridge has no burial ordinance. There are now 42 local boards of health in the state, 23 county and 19 town boards. Two new ones have been organized during the year. The laws of Maryland provide adequate penalties for the sale of diseased meat, but no means for enforcing these. There is but one inspector, and all that he is able to accomplish is to exert a moral influence by his occasional presence at the stockyards and abattoirs. Live cattle and slaughtered meats both require inspection, since by no means all diseased cattle are recognizable as such in life. For the year ended June 30, 1899, the secretary estimates the deaths from typhoid fever at from 904 to 1004—with probabilities in favor of the higher figure. Nine hundred and four deaths suggest the sickness of not less than 10,000 persons.

Baltimore.

DR. GEORGE L. WILKINS has been appointed physician to the city jail, at $1500 per annum.

DR. W. G. COPPAGE has been appointed assistant resident physician to the Hebrew Hospital.

DR. SYDNEY O. HEISKELL, who formerly held the position for fifteen years, has been appointed assistant health commissioner and quarantine physician to this port, in succession to Dr. John Ruhräh.

DR. JOHN M. LOWREY, resident physician at the Hebrew Hospital, has resigned and accepted an appointment as assistant-surgeon in the United States Army in the Philippines. Dr. A. L. Rettalliata, the assistant, has been promoted to the vacancy.

Three medical colleges—the University of Maryland, College of Physicians and Surgeons and Baltimore Medical College—have asked the legislature for an annual appropriation of $50,000, to be equally divided between them. they in return to furnish ten four-year free scholarships each.

"DR." LEONARD E. BEACH has entered suit in the Superior Court against the Mayor and City Council, claiming $10,000 damages for the refusal of the Health Department to grant a permit for the burial of a dead child upon his certificate of death, "alleging that he was not a registered physician and had no right to issue a certificate, . . ."

DISTRICT OF COLUMBIA.

THE COMMISSIONERS have appointed Dr. M. J. McIntee interne at the Washington Asylum Hospital.

THE ANNUAL report of the Episcopal Eye and Ear Hospital for the year ended January 1 gives the total number of patients treated as 1564, visits 6596, operations 243, house patients 158.

COMMISSIONERS' REPORT ON ANTIVIVISECTION BILL.

The attorney for the District, to whom the commissioners referred Senate Bill No. 34, known as the antivivisection bill, for a report on its phraseology, has advised them that it appears to be in good form with certain exceptions. If the proposed measure become a law, it will provide severe penalties, and the experimenter should be definitely advised of the conditions under which he may lawfully make experiments. He says Section 2, Paragraph b, of the bill, provides that the experiment must be performed by a person holding such license from the commissioners of the District of Columbia, as in this act mentioned, or by a duly authorized officer of the Government of the United States, or of the District of Columbia. The concluding portion of this paragraph, the attorney says, is rather obscure, and it should, he thinks, either be eliminated or more clearly expressed. Paragraphs c and d, in the same section, are in the attorney's opinion fairly subject to the recent criticism of the district health officer. Paragraph c provides that after an inoculation experiment, the animal need not be killed, and Paragraph d provides that if pain is likely to continue after the experiment, the animal must be killed.

LOUISIANA.

DAMAGES FOR QUARANTINE DETENTION.

The owners of the French steamer *Carolina*, have sued the Louisiana State Board of Health for $3000 damages alleged to have been suffered through unusual detention in quarantine on account of her having stopped at Rio Janeiro. The plaintiffs aver that at that time there had been only one case of bubonic plague in the port, and that this had been decided by the U. S. Treasury Department not to constitute Rio "plague-infected."

SMALLPOX.

The City Board of Health of New Orleans is still fighting smallpox, with its limited funds. There have been about 500 cases with a mortality of 25 per cent. The mandamus suit against the city council for an increase of the appropriation for 1900, adversely decided by the civil district court, has been appealed to the supreme court. The report that the New Orleans Polyclinic has been suspended on account of the smallpox is denied.

CANADA.

THE FACULTY of medicine of McGill University announces post-graduate courses from May 1, 1900, until June 9.

THE FIRST death from smallpox in the Province of Quebec is reported—Dr. Cote of St. Pascal, Kamouraska County. There are now only fifteen cases in that province.

THERE ARE twenty-six cases of smallpox in Ontario, distributed as follows: 15 in Toronto Junction, 3 in Toronto, 3 in Essex County, 3 in Amherstburg, and 2 near London.

AT A PUBLIC meeting of the citizens of Victoria, B. C., held March 2, a branch of the British Red Cross Society was organized, many prominent citizens enrolling their names as members.

DR. H. E. M. DOUGLASS, a graduate of Queen's University, Kingston, Ont., and surgeon to the Black Watch, having been invalided home on account of injuries received before Magersfontein, has been strongly recommended for the Victoria Cross on account of distinguished bravery on the field of battle.

BY THE will of the late Walter Drake, of Montreal, the chair of physiology in McGill University receives $15,000, the Montreal Western Hospital $10,000, the Montreal General Hospital $4000, and the chair of physiology, McGill University, bearing his brother's name, $15,000.

DR. T. F. CHAMBERLAIN, provincial inspector of hospitals, etc., Ontario, visited Ottawa officially on the 7th inst. Ottawa is agitating for a new isolation hospital and the inspector recommended Porter's Island in the Ottawa River as an admirable location for its erection.

THE MEMBERS of the medical board of the Victoria (B. C.) societies met on March 2. Steps will be immediately taken to acquaint all the medical societies throughout British Columbia with the recent combination of the Victoria members. A request was issued to them, asking that the proposed amendments to the medical act of the province be made a question to all seeking election to the legislature.

THE REPORT of Dr. J. F. Macauley, superintendent of the St. John (N. B.) General Hospital, for the past year, shows that there were 1004 patients admitted: 460 medical, 467 surgical, and 77 eye and ear. There were 650 discharged cured and 102 improved; 63 died; the patients remaining in the institution at the end of the year numbered 71. The cost of maintenance amounted to $21,755.89.

ON ACCOUNT of the change in the local government of the province of Manitoba, the Provincial Board of Health has been reorganized, with Dr. Paterson superseded by Dr. Holmes Simpson as chairman. The other members will be Dr. McFadden of Neepawa; Dr. Tomlin of Deloraine; and Dr. Macdonald of Brandon. Dr. Torrance of Winnipeg will take the place of Dr. Bell as provincial bacteriologist. It is unlikely that there will be any change in the secretaryship.

THE LAST OF OSTEOPATHY IN ONTARIO.

The "science" of "osteopathy" in this province in all probability received its death-blow this week, in the divisional (high) court at Osgoode Hall, Toronto, when the case of "Dr." Cluett, who was convicted at Ottawa last fall for violation of the medical act of the province, was finally dismissed on the "doctor's" appeal. The counsel for the appellant was not prepared to proceed with his argument when the case was called, as his principals in Ottawa had not sent him the proper documents, and he had not looked up the law on the argument. Their Lordships seemed to treat the whole matter in a trivial light, and declared that no authorities were necessary and confirmed the previous conviction, mentioned in THE JOURNAL at the time.

TRINITY MEDICAL ALUMNI ASSOCIATION.

The executive committee of this Association has decided not to hold the regular annual meeting this year, so far as the reading of medical and other papers is concerned, on account of the proximity of the meeting of the Ontario Medical Association, but the reunion will partake solely of a social function in the form of the annual banquet on the evening of the conferring of medical degrees at Trinity University, May 18, 1900. This Association offers, annually, a gold medal for the best thesis on any subject pertaining to modern medical science. Only graduates and members of the graduating class in medicine of Trinity Medical College who are members of the Association in good standing can compete. Theses must be sent to the general secretary, Dr. George Elliott, 129 John St., Toronto, on or before May 1, 1900, signed only by pseudonym, the name of the writer to accompany his thesis in separate cover.

STATE CONTROL OF TUBERCULOSIS.

As announced in THE JOURNAL of last week, Dr. E. J. Barrick headed a large delegation of medical men to interview the government of the Province of Ontario on the 7th inst., regarding legislation looking toward the establishment of sanatoria for the consumptive poor of the province, and the co-operation of the respective municipalities. Replying to the arguments of the deputation, the premier, Dr. Ross, said that the petition opened up a very large field for the expenditure of public funds and for the generosity of local municipalities. The Ontario Government is now spending about $800,000 yearly for the maintenance of asylums and $200,000 for hospitals, and it is a question if more money could be given. If they could count on the hearty co-operation of the municipalities, it would relieve the situation very much. If there was a public opinion which would warrant the government in assuming that municipalities would erect, establish and equip these sanatoria, it would distribute the burden and relieve the government to a considerable extent. He promised early and earnest consideration of the whole matter. The question of the control of expectoration in the public streets and in public places in the city of Toronto is altogether likely to become a practical part of civic politics at an early date. The medical health officer is of the opinion that this can not be controlled by compulsory legislation at the present time, and advises education of the people to a sense of the danger of the practice. Whether or not it is an advisable procedure to multiply sanatoria throughout the province may be an open question. Manifestly what the sanatoria have thus far proved in regard to the treatment of tuberculosis is that with plenty of fresh air and properly regulated and systematized modes of life, great good can be attained. Surely one, great, vast, natural sanatorium—the open country, and a properly regulated mode of life, systematically supervised by the family physician, together with a cleanly and easy system for sputum disposal forms the sum and substance of the whole treatment and control of this universally-talked-of malady.

HAWAIIAN ISLANDS.

Honolulu.

A LARGE number of people daily visit the headquarters of the Board of Health, for permission to leave for other islands.

A BOUNTY of 25 cents is being offered for live rats and 15 cents for dead ones, by the Board of Health, as a result of the plague outbreak.

THE JAPANESE working on plantations are being urged to follow the instructions of the health officers, circulars to that effect being distributed by the Japanese Immigration Bureau.

A LONG list of premises and buildings considered unsanitary has been sent to the Board of Health, by the Citizens' Sanitary Committee. It includes many well-known structures. Certain streets closed during the height of the scare have been ordered opened.

ACCORDING to the *Pacific Commercial Advertiser*, a block containing the rat poison authorized by the Board of Health was recently placed in the office of that paper, and in ten minutes was surrounded by numbers of dead cockroaches.

PLAGUE RETURNS.

Reports from the pest-house show that the plague patients are progressing most favorably. The situation is encouraging. There have been no new cases of plague for several days and the belief is growing that the pestilence may be at an end.—March 6.

PLAGUE ANXIETY.

As an instance of the anxiety which the plague has caused here, recently, on a tram-car, every man aboard was observed to press his finger tips hard against the region of his femoral glands—and after doing so "some of them looked scared." In fact, it is said that a great many people in town have sore places on the femoral glands or under the armpits, and it is no wonder, for they press the suspected places several times a day in search of plague signs, bruise the flesh and muscles, consequently have unmistakable twinges of pain there and imagine they have the disease.

UNSANITARY PONDS.

Relative to the recent crusade by the Board of Health against certain unsanitary duck ponds, a physician writes to the *Advertiser* that there are hundreds of acres of artificial swamps within the city limits, which are as much malaria-breeding ground as are the duck ponds. He refers to the rice-fields or taro patches, which he considers present excellent culture-grounds for the malaria poison, and so add their yearly quota to the cemetery. He suggests that as these fields are maintained only by irrigation, there will be no expense in drying them up and so abolishing them.

THE RAT CRUSADE.

A meeting was recently held by the Citizens' Sanitary Committee's inspectors to discuss the ways and means for thoroughly distributing rat poison. A number of the inspectors report objections on the part of the people to using

the poison, fearing it would be eaten by the children, dogs, cats and chickens, and that the rats might get into the water ditches or houses and die there and so become a nuisance. However, as arsenic, which is practically insoluble in water, is the poison used, no fear may be felt from the water. Distribution of the poison was begun on Saturday, February 17, and the poison was put out each night for a week thereafter, being furnished free. The *Advertiser* commented editorially on the rat crusade as follows:

Twenty thousand wooden blocks with augur holes for rat poison have been made and more are to follow. These containers are being charged and will be distributed throughout the city. . . . householders will make use of them and . . . witness a mortality among rats that must make the dwelling-house rodent, that natural carrier of plague infection, a rara avis in Honolulu. An effort has been made by thoughtless people to discourage this crusade on the ground that poisoned rats will retire to their holes and die there, thus creating a nuisance. If this were to be expected it would not matter much, for a few dead rats under the floors of a house are preferable to dead men in the rooms. A bad smell is surely not so bad as the bubonic plague. But if those who set the poison are careful to put a pan or dish of water near there will be no danger of dying rats getting away. The poison used creates a feverish thirst. The rat that eats must get a cooling draught and will go in search of it, staying by the water until his life goes out. Where the householder does his work as he should he will find his game where he leaves the thirst-assuager. Having killed a rat the animal must be burned. It can not be handled safely and should be carried to the fire on a shovel or on the end of a long stick. The use of the hands in contact with the rat is dangerous; in a less but still measurable degree is the use of a dust-pan. The best thing is a long-handled shovel or something shaped like it that may be made of wood and cleaned with fire or acid after being used. With this the rat, if found in the house, should be taken out of doors and either thrown into a bonfire already kindled or into a pan of coal oil which may be safely set on fire by means of a long twisted piece of paper. One should not go near enough to the pan to use a match, for bacilli may be there in waiting. These minute organisms infest the fleas of rats as well as the rats themselves. Now let everybody make ready to lend a hand in the crusade. Chinatown is no more and when the rats are exterminated also this city, so far as its anxiety about the plague is concerned, may begin to breathe freely.

Kahului.

PLAGUE NEWS.

When the plague was recently discovered here, the race track was at once made habitable for the people of the Chinese quarter, the latter being condemned and promptly burned. Before burning, however, the buildings at the three corners were first blown up with giant powder, thus assuring control of the conflagration and avoiding a disastrous one similar to the burning of Chinatown in Honolulu. The store and warehouses of the Hawaiian Commercial and Sugar Co. have been closed, and at the date of writing, March 6, were awaiting the decision of the Board of Health as to whether they should be burned. This action was taken on account of the discovery that the rats about the warehouse were dying, and bacteriologic examination revealed plague bacilli. The Board also ordered a rat-proof fence around the whole town. The goods in the store and warehouses are valued at $125,000. There has been one recent case of plague here—a woman who attended the Chinese New Year's celebration held at the house of the first victim.

Correspondence.

Varicella Ulcer of Cornea.

CHICAGO, March 5, 1900.

To the Editor: In THE JOURNAL of February 17, p. 431, Dr. Magee is reported as saying that he had been unable to find any reference in literature to the occurrence of a corneal ulcer as a complication of chicken-pox. As I have likewise been unable to find such reference I desire to record what I believe to have been such a case. In January, 1893, I was called to see T., an infant of 1 year, who was suffering from a very sore eye. Investigation showed a corneal ulcer, which had practically destroyed the sight of the eye. The trouble was of only a few days' standing. There was no history of injury or of any previous disease of the eyes, and as I was the family physician I was fairly familiar with the previous health of the child, which had been good. Inquiry elicited the information that the several children of the family, including the baby, had been having chicken-pox, but none of them was considered sick enough to require medical attention until this one's eye become affected. The dried crusts from the vesicles were still present on the head of the child, and the evidence presented by the children was quite sufficient to prove them to have had varicella. None of them had ever been vaccinated. There was an epidemic of varicella in the community—a small village—at the time, and no question ever arose as to the disease being other than chicken-pox, the character of the eruption in cases seen by physicians being typical of this disease.

Taking into consideration all the circumstances, I felt at the time fully justified in pronouncing the ulcer to have resulted from a varicella vesicle, and I have had no reason for changing my opinion since. The case was at once referred to the late Dr. E. L. Holmes, of this city, but the scar resulting destroyed the usefulness of the eye.

G. P. HEAD, M.D.

Association News.

Unofficial Committee for Organization of Pathologic Section.—Appreciating the importance of and the growth in pathologic science, Dr. W. W. Keen, President of the AMERICAN MEDICAL ASSOCIATION, entered into correspondence with some of the leading pathologists of the country relative to inaugurating a Section on Pathology in the AMERICAN MEDICAL ASSOCIATION. The correspondence showed that all are heartily in favor of such a Section. That no time be lost it has been thought best that a meeting be held at Atlantic City in June, for the purpose of forming such a Section, provided it meets with the approval of the ASSOCIATION. To arrange for such a meeting of those interested in pathology, the following committee has been unofficially appointed by the president: Ludvig Hektoen, Chicago, Chairman; Frank B. Wynn, Indianapolis, Secretary; Walter L. Bierring, Iowa City, Iowa; George Blumer, Albany, N. Y.; W. T. Councilman, Boston; G. Dock, Ann Arbor, Mich.; Edward K. Dunham, New York City; S. Flexner, Philadelphia; G. Fütterer, Chicago; W. P. Goff, Clarksburg, W. Va.; H. F. Harris, Philadelphia; J. B. Herrick, Chicago; M. Herzog, Chicago; W. T. Howard, Jr., Cleveland, Ohio; D. Braden Kyle, Philadelphia; A. P. Ohlmacher, Gallipolis, Ohio; W. Osler, Baltimore, Md.; F. A. Packard, Philadelphia; F. W. Parham, New Orleans, La.; Roswell Park, Buffalo, N. Y.; Clayton Parkhill, Denver, Colo.; A. B. Richardson, Washington, D. C.; Victor C. Vaughan, Ann Arbor, Mich.; A. S. Warthin, Ann Arbor, Mich.; Wm. H. Welch, Baltimore, Md.; F. F. Wesbrook, St. Paul, Minn.

Committee on Scientific Research.—A resolution was carried at the meeting of the AMERICAN MEDICAL ASSOCIATION at Denver, in 1898, authorizing: "That a committee of five be appointed by the President, at his leisure, to co-operate with similar commitees from other bodies to consider the desirability of formulating plans for the dissemination of knowledge of the value of experimental research in the progress of the science and art of medicine." In accordance with that resolution, the President has appointed the following committee: H. C. Wood, Philadelphia, Chairman; W. J. Mayo, Rochester, Minn.; F. H. Wiggin, New York City; J. F. Fulton, St. Paul, Minn.; C. A. Powers, Denver, Colo.

Unofficial Committee on Pathologic Exhibit.—Following the lead taken by the Indiana State Medical Society, at Columbus last June, in making an exhibit of pathologic specimens, it has been thought advisable to encourage such efforts, and this year there will be a more general exhibit in the exhibit hall, which will be under the auspices of the following committee, that has been unofficially appointed by the President to look after the matter: Joseph Stokes, Moorestown, N. J., Chairman; Frank B. Wynn, Indianapolis, Ind., Secretary; Alfred Stengel, Philadelphia; W. W. Fox, Atlantic City, N. J.

Section on Laryngology and Otology.—Following is a preliminary program of the Section of Laryngology and Otology, at the Atlantic City meeting:

Chairman's Address, by Christian R. Holmes, Cincinnati, Ohio.

Special Address, by J. Solis-Cohen, Philadelphia.

"Operations for Disease of the Middle Ear," by W. F. Cole, Waco, Texas.

"Treatment of Ear Diseases in Infancy and Childhood," by J. Homer Coulter, Chicago.

"Results of Surgical Treatment of Inflammation of the Mastoid," by E. B. Dench, New York City.

"Some Causes for the Variations of the Nasal Chambers and Associate Parts," by M. H. Cryer, Philadelphia.

"Care and Use of Instruments," by A. DeVilbiss, Toledo, Ohio.

"Primary Tuberculosis of the Ear: Mastoid Operation: Recurrence: Secondary Operation: Cure," by M. A. Goldstein, St. Louis, Mo.

"Import of Bacteria as Found in the Ear, Nose and Throat," by D. Braden Kyle, Philadelphia.

"The General Treatment of Nose and Throat Diseases," by H. W. Loeb, St. Louis, Mo.

Topic to be announced, R. C. Myles, New York City.

"Abscess of Antrum of Highmore in the Infant, with Report of a Case Successfully Treated," by Emil Mayer, New York City.

"Diagnosis and Prognosis of Ear Diseases," by B. Alex. Randall, Philadelphia.

"Sarcoma of Nasal Passages; Report of Case," by Dunbar Roy, Atlanta, Ga.

"Diagnosis and Treatment of Syphilis of the Upper Air-Passages," by Geo. L. Richards, Fall River, Mass.

"Angina Epiglottidea Anterior: Report of Two Cases," by C. F. Theisen, Albany, N. Y.

"The Atrophic Pharynx," by R. W. Seiss, Philadelphia.

"Complications of Mastoid Abscess," by C. W. Richardson, Washington, D. C.

"Systemic Factors in Catarrhal Deafness," by Sargent F. Snow, Syracuse, N. Y.

"Fistula Auris Congenita with Report of Case: Operation: Important Complications," by Jno. O. McReynolds, Dallas, Texas.

"Suppurative Mastoiditis with Report of Cases," by J. H. Bryan, Washington, D. C.

Topic to be announced, A. W. Calhoun, Atlanta, Ga.

"Nasopharyngeal Growth from Non-use of the Nose," by Norburne B. Jenkins, Knoxville, Tenn.

"Report of Two Cases of Sinus Phlebitis: One Case of Meningitis of Otitic Origin," by O. Joachim, New Orleans, La.

"Untoward Sequences of Adenoid Operations," by E. L. Shurley, Detroit, Mich.

"Treatment of Deflection of the Nasal Septum Complicated by Traumatic Deformity of the External Bony and Cartilaginous Framework of the Nose," by E. B. Gleason, Philadelphia.

"Papilloma of the Larynx," by E. T. Dickerman, Chicago.

Topic to be announced, Robert Levy, Denver, Colo.

"Present Status of Antitoxin Treatment," by Samuel Allen, Cincinnati, Ohio.

"General Bodily Resistance as a Factor in the History and Cure of Nose and Throat Diseases," by F. L. Stillman, Columbus, Ohio.

"Hysteric Deafness with Report of Two Cases," by Albert E. Bulson, Jackson, Mich.

"Limitations of Ossiculectomy and Tympanic Curettement," by Frank Allport, Chicago.

Topic to be announced, Chevalier Jackson, Pittsburg, Pa.

Topic to be announced, W. Scheppegrell, New Orleans, La.

"Purulent Tympanomastoiditis of Children," by Hermann Knapp, New York City.

"Treatment of Atrophic Rhinitis by Electrolysis and Some Experiments to Determine the Efficiency of Needles of Different Metals," by C. M. Cobb, Lynn, Mass.

"Ocular Expressions of Intranasal Lesions," by Robert Sattler, Cincinnati, Ohio.

Topic to be announced, Howard McMorton, Minneapolis, Minn.

"History of an Unusual Papillomatous Growth in the Larynx," by Joseph S. Gibb, Philadelphia.

"Some Experiments on the Relation Between Audition and the Circulation of Blood in the Head," by H. Stillson, Seattle, Wash.

"Purulent Otitis Media," by Talbott C. Chambers, Jersey City, N. J.

Topic to be announced, Jno. O. Roe, Rochester, N. Y.

"Nose as a Factor in Disease of the Eye," by Wm. Cheatham, Louisville, Ky.

"Enlarged Lingual Tonsil with Report of the Case," by Frank D. Boyd, Fort Worth, Texas.

"Unusual Symptoms Following Operation for Removal of Septal Spurs," by J. L. Goodale, Boston.

"Embryonic Defects of the Nose, Throat and Ear, and their Causes," Geo. C. Stout, Philadelphia.

"Neuroses of the Larynx," by J. F. Woodward, Norfolk, Va.

Deaths and Obituaries.

OLIVER PAYSON HUBBARD, M.D., LL.D., emeritus professor of chemistry and pharmacy in Dartmouth College, died March 9. He was born in Pomfret, Conn., in 1809, and studied at Hamilton College and at Yale, where he was graduated in 1828. He became the assistant of the elder Prof. Benjamin Silliman, whose daughter he married. He was appointed professor of chemistry and pharmacy, mineralogy and geology at Dartmouth College in 1836, retaining that post for thirty years. He continued to lecture till 1871, when he was appointed professor of chemistry and pharmacy. In 1883 he was retired as professor emeritus. He received the degree of M.D. from South Carolina College in 1837, and that of LL.D. from Hamilton College in 1861. He had been an overseer of the Thayer School of Engineering at Dartmouth College since 187[illegible]. For many years he was corresponding secretary of the New York Academy of Sciences. He also served one term in the New Hampshire legislature, in 1863-64, a distinction which he highly prized.

ISRAEL PRIOR, M.D., Bellevue, New York City, died March 6, aged 58 years, at his home in North Stamford, Conn. He was a member of the Stamford Medical Society, and at one time active in the AMERICAN MEDICAL ASSOCIATION. In his professional life he practiced in Illinois before taking up his residence in Connecticut.

PHYLON C. WHIDDEN, M.D., died in Chicago, March 8, of apoplexy. He was a native of Massachusetts and 60 years of age, and served as surgeon during the Civil War. He was a graduate of the Harvard Medical School, and had been a resident and practicing physician of Chicago since 1866.

J. S. WATTS, M.D., Millersburg, Iowa, died February 24, aged 69 years. He was born in Amherst County, Va., and was a graduate of the Starling Medical College, Columbus, Ohio, and took a post-graduate course at the Jefferson Medical College, Philadelphia.

DAVID B. MORTON, M.D., St. Louis, Mo., died March 5, aged 85 years. He was one of the oldest physicians in the city, and practiced until a year ago. The cause of his death was la grippe complicated with old age.

W. R. SMITH, M.D., died at Hillsboro, Ohio, aged 78 years. He was born at Greenfield, and had been a resident of Hillsboro for over half a century.

LEROY C. TOWLES, M.D., died at Accokee, Md., March [illegible], aged 44 years. He was a graduate of the Washington-Le University, and of the medical department of the University of Maryland, class of 1877.

AARON EDGERTON PECK, M.D., College of Physicians and Surgeons, New York City, 1855, died March 8, at his home in Brooklyn, N. Y., in which city he had practiced for nearly forty years.

J. H. LAMMER, M.D., Greencastle, Ind., died March 3, having been thrown from his buggy against a tree. He was 40 years of age.

HARVEY K. WINGERT, M.D., an eye specialist of Knoxville, Tenn., died March 5, after a brief illness. He was a graduate of the medical department of the University of Michigan, and was 30 years of age.

We also note the following deaths:

James A. Abrahams, M.D., Demopolis, Ala., March 15.

W. B. Adams, M.D., Montgomery, Ala, March 6, aged [illegible] years.

E. R. Bell, M.D., Ripley, Ohio, February 24, at the age of [illegible].

T. S. Fox, M.D., Batesburg, S. C., March 5, of heart disease.

William Glatzmayer, M.D., Newark, N. Y., at the age of [illegible].

R. F. Gray, M.D., Winston, N. C., 47 years old.
H. F. Hazlet, M.D., Pueblo, Colo., March 4, aged 34 years.
F. Wm. Hecker, M.D., Spring City, Pa., March 4, at the age of 71.
Nathan L. Hufty, M.D., Delavan, Ill., at the age of 77.
G. M. Kolb, M.D., Cleveland, Ohio, March 6.
J. H. Maddox, M.D., near Deesen, Miss., March 4.
Richard J. Moore, M.D., Pasadena, Cal., March 2.
William Spinner, M.D., Montvale, Va., March 3, aged 38 years.
Morris Wilson, M.D., Lincoln, Me., aged 75 years.

Miscellany.

Medical Attendance on Servants and Masters.—The *Gaz. Med. Belge* states a case as follows: "Monsieur and Madame have their physician. The cook or waitress is taken sick. The masters send out for the nearest doctor. What is the latter to do: treat the servant and thus tacitly confess that he is skilful enough for the back stairs but not for the front? possibly meet the regular physician attending the masters." It concludes: "Except in an urgent case, when called by the masters for a servant, enquire if they have a regular physician, and if so request them to send for him and decline to attend the case, and thus avoid all unprofessional complications. If summoned by the servant herself, the matter is, of course, entirely different, and there is no question of conflicting obligations."

Invasion of Lymphatic System with Cancer of the Stomach.—B. Cuneo reports to the Académie de Médecine (February 20) that the lymphatics of the stomach are arranged in two distinct systems, one in the mucous and the other in the musculo-serous tissue. The absorbent lymphatics are arranged in three groups: an upper group terminating in the ganglia of the stomachic coronary chain; a lower group constituting the right gastroepiploic chain and a group on the left terminating in the ganglia of the splenic chain. This arrangement explains the tendency of cancer of the pylorus to invade the lesser curvature. The integrity of the duodenum is due to the absence of continuity between the gastric submucous and the duodenal submucous tissue. He draws the practical conclusion that in removing cancer of the pylorus the group of ganglia of the lesser curvature should be removed entire with the tumor.

Serotherapy of the Plague.—In a recent work by Netter he states that the efficacy of serum treatment of the plague was fully established in the first experiences with it, and also in Calmette's and Salimbeni's recent experiences at Oporto. The less satisfactory results in the interim were due to imperfect technique in the preparation of the serum. To be truly effective the animals must have received intravenous injections of live cultures. The efficacy of Haffkine's vaccination is shown most remarkably by the statistics at Hubli, a town of 41,000 inhabitants, where 38,712 were vaccinated. The plague caused 2716 deaths among the total population: 2482 among the unvaccinated and only 349 among the vaccinated. According to this proportion, if all had been vaccinated, the number of deaths would only have been 524; if none had been, the deaths would have been 24,920. The Haffkine vaccin attenuates if unable to prevent the disease.

Dermoid Cyst Simulating Meningocele.—We reproduce the following illustrations and report from the *British Medical Journal* of February 24. The patient, a young man, aged 25, was admitted on March 9, 1899, to the Queen's Hospital, for a large rounded swelling situated in the middle line over the frontal bone and the fronto-parietal suture. The swelling had been there since birth, but had increased considerably in size during the previous twelve months. He had no pain nor inconvenience except from its bulk. The skin over it was normal, but the hair was not so abundant as over the rest of the scalp. It was not translucent, but was moderately tense and fluctuating. There was no tenderness on pressure, no impulse on coughing or increasing intracranial venous pressure, nor was there any perceptible diminution of the contents nor any symptoms caused by pressure. The bone around the base was felt as a raised ridge. The measurements were: circumference at base, 11¼ in.; antero-posterior over swelling, 7¼ in.; lateral over swelling, 7 in. He had sought surgical assistance on several occasions, but had always been advised against operation. As the swelling—if a meningocele—had

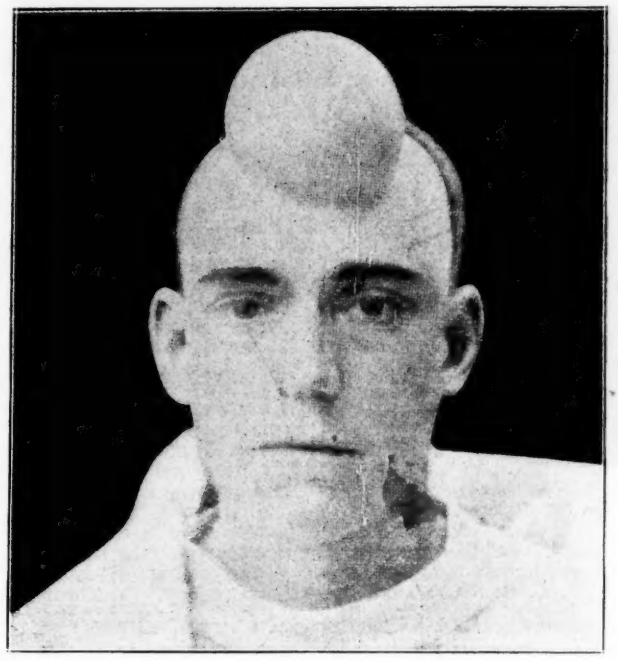


FIG. 1.—Front view.

clearly only very slight, if any, communication with the interior of the skull, removal was advised. On March 10 an elliptical incision was made over the center of the swelling and careful dissection of the wall commenced. This was unavoidably punctured, and a quantity of dark-brown grumous fluid escaped. The contents were seen to be sebaceous matter,

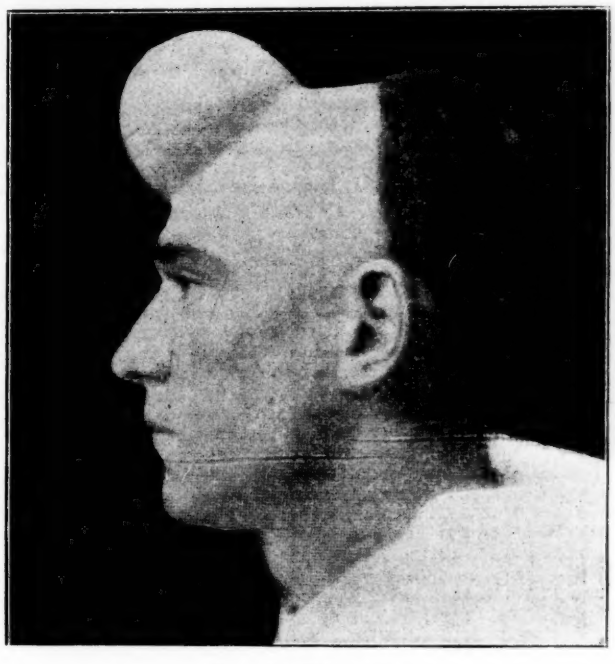


FIG. 2.—Side view.

hair, and epithelial débris. The cyst was then rapidly removed. The bone on which it rested was, by pressure, flattened, and there was a marked ridge around the circumference, so causing the crater-like condition noted prior to operation. The wound healed by primary union, and the patient was discharged cured on the 16th.

Queries and Minor Notes.

WASHINGTON'S ILLNESS AND DEATH.

BLOOMINGTON, ILL., March 6, 1900.

To the Editor.—I wish to learn all I can about the last sickness of George Washington and its treatment. Is there anything published on these subjects that I could get to use in preparation of an essay on "The Death of Washington"? I wish to get all the information I can of the disease, its cause, its nature, its treatment, and the result, and why the result. Was Washington's death caused by the disease or the treatment? What of the qualifications of doctors in those days? What of the science and art of medicine then? What of medical colleges, books, journals, surgical instruments and appliances, etc., in those days? I shall be very much obliged for any information you may be pleased to give me. Yours very truly, J. L.

ANSWER:—The cause of Washington's death was very well discussed by Dr. Solis Cohen in the December number of *Lippincott's Magazine*, and on which we commented editorially in THE JOURNAL of Dec. 2, 1899, p. 1430. His last illness was noticed at length in THE JOURNAL of Dec. 30, 1899, p. 1655. His physicians were undoubtedly as able and qualified as any that were available at the time, and the treatment he received was, as Dr. Cohen shows, fully up to the then-generally-received ideas. There was only one medical college in the country prior to the Revolutionary War, and that only a few years old, and physicians had, before 1765, to obtain their education by going abroad or as office students. There have been other articles on Washington's last sickness, one for example, by Dr. James Jackson, published in 1862, but they are not available. Dr. Cohen shows that tracheotomy, which alone could possibly have saved Washington's life, was at the time a very rarely performed operation, and it is possible and even probable that it would have been ineffective in his case. Much in regard to medical education of the time, and other matters about which our correspondent asks may be found in "History of Medical Education and Institutions in the United States, from the First Settlement of the British Colonies to the Year 1850," by N. S. Davis, M.D. The book may be out of print, but can be found in most libraries.

TUBERCULOSIS COMPETITION.

MILWAUKEE, WIS., March 5, 1900.

To the Editor.—Would you kindly inform me conditions, etc., as to entry in the competitive discussion on the prevention of tuberculosis, in Sweden, and in which cause King Oscar is active. Yours truly, G. S.

ANSWER:—As far as we know, the competition referred to has been closed and the prizes awarded some time ago.

PRIVATE ASYLUM.

A subscriber in Cincinnati, Ohio, desires to know whether there is any private asylum or sanitarium for the treatment of mental diseases, in Iowa, and if not, whether there is such an institution in northern Missouri or Kansas. Information sent to this office will be forwarded.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Feb. 23 to March 1, 1900, inclusive:

Peter V. Ballou, acting asst.-surgeon, from Louisville, Ky., to the Department of California.

Frederick D. Branch, acting asst.-surgeon, from Albany, N. Y., to the Department of California.

Jere B. Clayton, lieutenant and asst.-surgeon, U. S. A., from Fort Mason, Cal., to duty at Vancouver Barracks, Wash.

Peter J. A. Cleary, lieut.-col., deputy surgeon-general, U. S. A., sick leave extended.

John G. Davis, major and surgeon, U. S. V., from New York City to San Francisco, Cal., and thereafter to Manila, P. I., for duty in the Department of the Pacific and 8th Army Corps.

George W. Ely, acting asst.-surgeon, from Pittsburg, Pa., to the Department of California.

Samuel Friedman, acting asst.-surgeon, from New York City to the Department of California.

Hugh Goodwin, acting asst.-surgeon, from Fayette, Mo., to the Department of California.

George H. R. Gosman, acting asst.-surgeon, from Brooklyn, N. Y., to the Department of California.

Charles Richard, major and surgeon, U. S. A., member of a board at Fort Leavenworth, Kan., to report on the location of certain public buildings.

Henry G. G. Schmidt, acting asst.-surgeon, from Elgin, Ill., to the Department of California.

Thurston Smith, acting asst.-surgeon, from Bloomington, Ind., to the Department of California.

William Stephenson, captain and asst.-surgeon, U. S. A., member of a board in New York City, to examine officers of the corps of engineers for promotion.

William E. Vose, acting asst.-surgeon, from Fort McHenry, Md., to the Department of California.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ended March 2, 1900:

P. A. Surgeon F. W. Olcott, detached from the naval recruiting rendezvous, Detroit, Mich., and ordered home to wait orders.

Asst.-Surgeon J. A. Murphy, ordered to the Pensacola, navy yard.

P. A. Surgeon W. F. Arnold, detached from the Pensacola navy yard and ordered to the naval hospital, Norfolk, Va., for treatment.

Asst.-Surgeon D. H. Morgan, ordered home from the Asiatic Station and to wait orders.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended March 1, 1900:

Surgeon S. D. Brooks, to proceed to Bar Harbor, Me., as inspector.

P. A. Surgeon T. B. Perry, to proceed to Buckhannon, W. V., for special temporary duty.

P. A. Surgeon R. M. Woodward, granted leave of absence for thirteen days from April 16.

P. A. Surgeon J. O. Cobb, to proceed to Folsom and Catskill, N. M., for special temporary duty.

P. A. Surgeon, G. B. Young, granted leave of absence for one day.

Asst.-Surgeon S. R. Tabb, to proceed to Fernandina, Fla., as inspector.

Asst.-Surgeon R. H. von Ezdorf, to proceed to Atlanta and report to the Governor of Georgia for temporary duty.

Hospital Steward Walter Newbern, relieved from duty at the Tortugas quarantine station and directed to proceed to Mobile, Ala., and report to the medical officer in command for duty and assignment to quarters.

Hospital Steward J. F. Beck, upon being relieved from duty at Mobile, Ala., to proceed to San Francisco, Cal., and report to medical officer in command for duty and assignment to quarters.

Hospital Steward E. M. Holt, to proceed to Boston, Mass., and report to the medical officer in command for duty and assignment to quarters.

APPOINTMENT.

Edwin M. Holt, of Pennsylvania, appointed as junior hospital steward.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 10, 1900:

SMALLPOX—UNITED STATES.

Arkansas: Searcy, Dec. 25, 1899, to Feb. 27, 1900, 40 cases.

Illinois: Aurora, Feb. 17 to March 3, 4 cases; Chicago, Feb. 24 to March 3, 1 case.

Kentucky: Covington, Feb. 24 to March 3, 5 cases.

Louisiana: New Orleans, Feb. 24 to March 3, 61 cases, 12 deaths.

Michigan: Detroit, Feb. 17 to March 3, 12 cases.

Minnesota: Minneapolis, Feb. 17 to 24, 11 cases, 1 death.

Ohio: Cleveland, Feb. 24 to March 3, 26 cases.

Pennsylvania: Philadelphia, Feb. 24 to March 3, 3 cases.

Tennessee: Nashville, Feb. 24 to March 3, 1 case.

Texas: For the state, Feb. 21 to 28, 142 cases, 3 deaths.

Utah: Salt Lake City, Feb. 24 to March 3, 1 case.

Virginia: Portsmouth, Feb. 24 to March 3, 3 cases; Roanoke, Feb. 1 to 28, 7 cases.

Washington: Tacoma, Feb. 18 to 24, 13 cases.

West Virginia: Buckhannon, Feb. 9, present; Calhoun County, Feb. 9, present; Camden on the Gauley, Feb. 9, present; Fayette County, Feb. 9, present; Gilmer County, Feb. 9, present; Lewis County, Feb. 9, present; Harrison County, Feb. 9, present.

SMALLPOX—FOREIGN.

Austria: Prague, Feb. 3 to 10, 6 cases.

Belgium: Antwerp, Feb. 3 to 10, 5 cases, 1 death; Ghent, Feb. 3 to 10, 2 deaths.

Canada: Ontario, Amherstburg, Feb. 24 to March 3, 3 cases; Quebec, Feb. 15 to 22, 11 cases.

England: London, Feb. 3 to 17, 25 cases.

Gibraltar: Feb. 4 to 11, 1 case.

Greece: Ahens, Feb. 3 to 10, 2 cases.

India: Bombay, Jan. 30, 715 deaths: Calcutta, Jan. 13 to 20, 7 deaths; Madras, Jan. 27 to Feb. 2, 3 deaths.

Mexico: Vera Cruz, Feb. 17 to 24, 2 deaths.

Russia: Moscow, Jan. 27 to Feb. 3, 4 cases 1 death; Odessa, Feb. 3 to 10; 10 cases, 2 deaths; St. Petersburg, Jan. 27 to Feb. 17, 63 cases, 18 deaths; Warsaw, Jan. 27 to Feb. 10, 5 deaths.

Spain: Corunna, Feb. 10 to 17, 6 cases, 4 deaths.

Straits Settlements: Singapore, Jan. 13 to 20, 1 death.

Turkey: Constantinople, Feb. 5 to 15, 1 death.

YELLOW FEVER—FOREIGN.

Brazil: Santos, Jan. 29, increasing; Sau Paulo, Jan. 29, increasing.

Cuba: Havana, Feb. 10 to 17, 9 cases, 4 deaths; Matanzas, Feb. 10 to 17, 1 death.

Mexico: Vera Cruz, Feb. 17 to 24, 1 death.

CHOLERA.

India: Bombay, Jan. 23 to 30, 9 deaths; Calcutta, Jan. 13 to 20, 21 deaths.

PLAGUE—INSULAR, UNITED STATES.

Hawaii: Honolulu, Feb. 10 to 19, 5 deaths, Kahului, Feb. 13, 3 cases.

Philippine Islands: Manila, Jan. 13 to 20, 4 cases, 3 deaths: total to date, 16 cases, 12 deaths.

PLAGUE—FOREIGN.

India: Bombay, Jan. 16 to 20, 872 deaths; Calcutta, Jan 13 to 20, 56 deaths.

CHANGE OF ADDRESS.

ERRATUM.—In the issue of March 3 a change of address was given, N. Hickman, from Philadelphia, to 1409 Wood Ave., Colorado Springs, Colo. This should refer to Dr. W. A. Hickman.

DR. HENRY F. LEWIS has taken an office in the Columbus Memorial Building, 103 State Street, Suite 1007.

T. F. Beverige, from Bridgewater, S. D., to 4155 Grand Boul, Chicago, Ill.

S. W. Fain, from St. Petersburg, Fla., to Dandridge, Tenn.

I. L. McCurry, from Toccoa, to Hartwell, Ga.

H. Klein, from German Hospital to 791 S. Halsted, Chicago, Ill.

J. T. Smith, from 69 Washington to 184 Dearborn, Chicago, Ill.

L. H. Tombaugh, from Sheridan to Waukegan, Ill.

W. B. Wallace, from Lima, Ind., to Manton, Mich.

J. J. Hardy, from Cavanal to Sutter, Indian Territory.

C. E. Bowers, from Anthony to Wichita, Kan.

D. W. Byers, from Lexington to Woburn, Mass.

L. W. Zwisohn, from 334 E. 78th to 1085 Lexington Ave, New York City.